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SOFTEX

- TI-WRITER
- Workstations
- Talking to your Printer
- Importing
- Astrology by Computer

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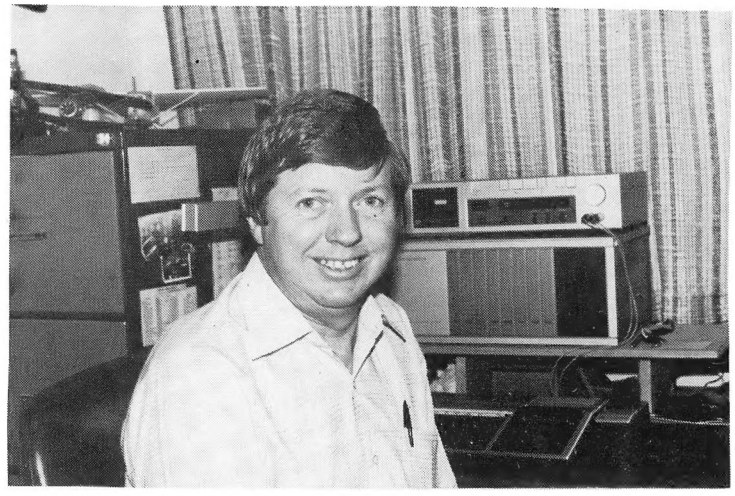
Editorial



Any-one who has been taking an interest in Computers recently will have noticed that the market has been gradually changing, from a separate home and business market to one where they are virtually combined today.

It appears that the so called 'Home Computer' is not doing well out there in the real world, with the TI-99/4A only being one of the first victims to fall. Others have serious problems also, including the IBM PCjr which has fallen on a dead market and is rumoured to be in for a face lift, including more memory, extra Disk drive capability and a new keyboard.

Whilst attending the PC 84 show, there were rows and rows of computers all 'touting' IBM or Apple compatibility. It seems strange that still more new computers come out using the Old Z-80 chip (Apple types) which has been superseded now for years by the 16 and 32 Bit processors. I personally am surprised that Apple and all its copies sell so well today.

Despite all the claims for compatibility, particularly with the IBM PC, most claims are not strictly true. At the best, most are only able to read files written by the IBM using software specifically designed for the system they use, usually MS-DOS 2.11 or CPM etc.. The IBM uses a copyrighted version of MS-PC DOS that is different sufficiently that no one can copy with-out infringing copyright. Some machines do not even have the ability to run the normal software products sold and are restricted to only one or two programs only.

Now, if you thought the TI-99/4A was poorly supported by software, some of these so called compatibilies are in a worse state than you face. Again, although there appears to be mountains of good word processors etc., you may be surprised to find out that many of these do not have the features of TI-WRITER and are certainly no where near as friendly as the TI system. Most PC computers seem to have heaps of memory, but did you know that MS-DOS 2.11 takes some 56K of memory, before a program is added. Remember that most PC computers have NO ROM inbuilt.

Softex has been following the market trends and are in the process of becoming Dealers for the TI Professional Computer (excells in graphics and other areas over the IBM PC) as well as a range of smaller/cheaper business type computers. We will continue to support the TI-99/4A computer by trying to provide useful programs for it (eg. a Data Base program coming in the future), but we will also be expanding our horizons to the up-market.

In time, the PC type computer will possibly take over the whole market, with the Home computer fading away. You really stop and think about the implications when you read that a large percentage of computers are bought for mainly impulse reasons, their owners soon becoming tired of them, either from lack of interest or in-ability to actually operate programs properly. It is also reported that up to 50% of PC users abandoned their computers or did not use them for the purpose orginally intended.

When we all see and hear the evidence of this happening in the computer world we are made to realize the importance of computer education and its availibility.

Douglas W. Thomas

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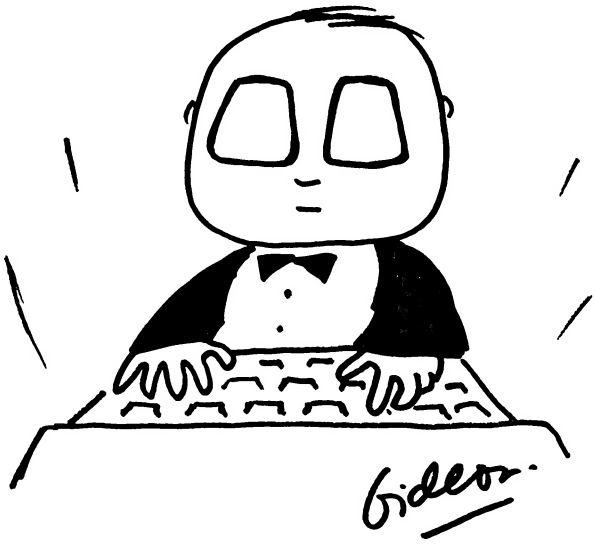


TEXT-IT

"Thankyou for your disk of the word processor programme, it works well. With a Call Files(1) you can get more than 60 lines into memory without the 32K expansion...Dimension it to 61, not 60..."

"I include a small programme, that is a demostration of a little wrinkle we have just found."

```
10 CALL CLEAR
20 CALL KEY(3,K,S)
30 PRINT "ALPHA LOCK UP PLEA
SE"
40 PRINT "TYPE IN YOUR NAME"
:"SMALL LETTERS PLEASE"
50 INPUT N$
60 PRINT "SMALL LETTERS PLEA
SE":"IS THE ALPHA LOCK UP"
70 CALL KEY(5,K,S)
80 PRINT "LET'S TRY AGAIN"
90 INPUT N$
100 PRINT "THATS BETTER"
```

Brian Rutherford.
Dudley. N.S.W.

Thanks for the information on the TEXT-IT word processor.

Looks like you have found an interesting effect using the CALL KEY statement, which could be useful where responses are required in capitals only.

EP-44

"..I am more than pleased with the EP-44 as it is good value as an electronic typewriter in it's own right. A little tricky at first until the facilities are learned but the comparison with an ordinary typewriter is all in it's favour. The word processing abilities overule the cost of thermal paper as waste in avoided to large degree even though a 15 character window is limiting for proof reading.

However, I have used it with the TE-II module and contrary to the preview in 'Softex' is quite compatible by selecting the first options on menu 2 and then setting the values according to the guide book. Text transmission then gives a screen display of the memory output which can be put into 80 column display with upper and lower case and will paginate also on the software. To summarise a display typewriter is obtained."

John Fanning.
Sth. Yarra.

Thanks John, I am pleased that you have found the EP-44 everything we said it was and more. Looking foward to your notes regarding this remarkable printer in the future, our evaluation was to brief to fully discover the full abilities of this printer/terminal.

Transmission of Data to cassette files

"...I understand information is stored in a 'buffer' prior to transmission. What is the most efficient way to fill the buffer prior to sending Data to tape? Also what is the memory capacity of the buffer?

For example:

```
100 OPEN #1:"CS1",OUTPUT,FIXED 192
110 FOR I=1 TO 30
120 INPUT #1:A$(I)
130 NEXT I
140 CLOSE #1
```

This will transfer information from the array A$(I). Each piece of information will be independently recorded, a slow process! How can the buffer be filled from array A$(I) and transmitted as a whole? I would point out that in some computers (e.g. VIC 20) this method is used exclusively!"

Philip Heskett.
Mooney Mooney.

Few people understand the Files commands fully, and we intend to run a full article on how to save records and retrieve them. For the moment the following brief explanation should assist.

The maximum FIXED length record for Tape is 192 Bytes (254 Variable,255 Fixed for Disk). If the length is not specified, then the default is 64 bytes (80 for Disk). With tape only 3 lengths are used by the computer, irrespective of the figure

Letters to the Editor

nominatated, these being 64, 128 or 192 bytes. If you put FIXED 100, the computer would consider this as 128.

Files in Fixed format are processed faster than those of variable length. RELATIVE files must have fixed length records, if not specified then the default length (64) is used.

In your example, you give no reason why you selected FIXED 192, the maximum length. To shorten the time loading or saving records try packing them, that is, if your individual records are 64 characters long, then you can store 3 records in each INPUT statement, reducing your time by 1/3. If your records are shorter than 64 characters, then you can pack more in. Using your example for records being 64 Chars. long we modify the program this way:-

```
100 OPEN #1:"CS1",OUTPUT,FIXED 192
110 FOR I=1 TO 30 STEP 3
120 PRINT #1:A$(I),A$(I+1),A$(I+2)
130 NEXT I
140 CLOSE #1
```

By using STEP 3 we can put 3 records in at once by specifying the arrays as A$(I),A$(I+1),A$(I+2). For reading the Data back we can use a similiar layout.

News Briefs

International 99/4 Users Group declares losses.

The International 99/4 Users Group declared a first quarter, 1984, loss of US$184,000 on sales of US$1,384,000. This was claimed to be the worst fiscal quarter ever suffered by the IUG. Charles LaFara cited lack of availability of TI software, loss of TI advertising revenue, and increased costs associated with the Group's magazine, "Enthusiast '99".

(Source: "Enthusiast '99", May/June 1984.)

****

TI Hands over Product Distribution to Triton.

Agreement has been reached between TI and The Triton Company, a mail order house, for Triton to dispose of all remaining products for the 99/4A Home Computer. It appears Triton have free rein to produce additional products for the computer if they wish, though whether this will happen is unsure.

(Source: "Enthusiast '99", May/June, 1984.)

****

No More "Boxes" - But, There's Hope Yet!

The supply of Peripheral Expansion Boxes for the 99/4A Home Computer appears to have dried up. However, Imagic have announced that they have reached an agreement with Corcomp , a third-party manufacturer, for supply of that company's version of the same thing...Same, but better, as the unit is considerably smaller, and the disk controller card runs double-density drives, up to four of them. No prices available, yet.

News Briefs

NEW PERIPHERAL EXPANSION SYSTEM

IMAGIC have announced the imminent availability of the "Corcomp" peripheral expansion system for the 99/4A. This is one of several systems which have become available in the U.S., and appears to offer several advantages over the TI Peripheral Expansion Box, which is no longer available, anyway.

For a start, it is very compact. From the photos we've seen, it seems to be about the size of a standard disk drive. It is depicted alongside two slimline drives, and the frontal areas appear about the same. Secondly, it will run double-sided, double density disk drives - 360K to a disk.

Like the TI system it consists of a "box", and one plug-in card, the differences being the disk controller and 32K memory expansion cards are combined, and the RS232 card is built-in.

It is available in one of two formats:

1. The total system - printer interface, disk controller/32K memory expansion..$745.00

2. The module plus inbuilt RS232 card, with both serial and parallel ports..$375.00 (The disk controller/32K memory expansion card can be bought later, which will fit into the module of option 2 above, upgrading it to the full system. $450.00)

The system will run up to 4 disk drives, all of which will be external, it would appear. The all-up price, including one disk drive, would appear to be about the same as the system it replaces, but with greater capabilities.

Expected availability - mid to late August.

TI-WRITER

"The TI 99/4A was always a good computer.....but the advent of TI-WRITER has made it a truly useful household machine."

Requirements: TI 99/4A Computer (Writer won't run on the 99/4), Disk Controller and Drive, 32K Memory Expansion, RS232 Interface, Printer.

Introduction:

Many people who have acquired TI-WRITER have made the comments quoted above, or ones very similar. I am one of those people. The expression is not only made by Users, but also by spouses and children.

Why?

TI-Writer makes the 4A of use to the whole family, thereby giving the rest of the family some understanding of the computer's usefullness to the home. What a pity it had not been around much longer, and what a pity TI didn't sell its computer as a household machine, like a vacuum cleaner, instead of as a plaything. And while wishing, what a pity PRK was not improved to the standard of TI-WRITER!

The fact that WRITER is so useful also takes the "heat" off the User, as the rest of the family now appreciate that being locked away for hours on end can be productive.

What is it about WRITER that wins so many friends?

Well, basically, it is a word-processor, albeit a very good one.

What advantage is a word-processor to the home?

The uses are many, but here are a few;

(i) **Letters:** It is now easy to prepare a highly-legible, well-presented letter. This is especially important for letters to Public Authorities, Banks, Job Applications, etc. Naturally, as many copies as needed can be run off.

(ii) **Clubs:** If you are an office-bearer in a Club, your correspondence can have a professional letterhead at no cost, and you are spared the tedium of sending out dozens of letters, all of which are basicaly the same. For example, acknowledgement of new memberships, enquiries, etc., can be answered with a standard letter in a flash, using defined prompts or the mail file option.

(iii) **Reports/Essays:** The presentation of essays and reports is very important, if one really wishes to attract the attention of the reader. For students, it could mean the difference between a pass and a failure, or it may give the extra few marks necessary to gain admittance to a particular Tertiary Institution.

From experience as a marker of essays, I can assure you that if it's late in the evening, there are 10 essays still to be marked, and a poorly presented one is the next to be done, it can get pretty tough treatment. Conversely, under the same set of circumstances, a clear, legible, neat presentation will be welcomed.

It never ceases to amaze me how many mature-age students continue to present shoddy work. One can excuse schooolchildren, perhaps, but one would expect older students to be wise enough to be aware of the importance of presentation.

With TI-Writer, a good quality dot-matrix printer, and time, one can submit a well-laid out, neat, easy to read report.

This can equally well be achieved by expenditure of the same amount of time and effort on a neat, handwritten report, or a typed report, you may well say.

Certainly, this is so, on the surface. However, consider these methods of preparation. A draft is prepared, it is corrected, perhaps a typed draft then done. This is then edited, and re-typed or re-written.

With a word processor, however, the whole method of approach changes. Why, you ask? Well, it is simply because the word processor enables one to prepare as many drafts as needed, before the final copy. The difference is simply that once the text is typed into the computer, it is readily altered, in a minor or major way, for expression and style. I was involved in a 4000 word essay which had no less than seven drafts before it was felt to be acceptable. Imagine the cost and time involved with getting a typist to prepare seven drafts!

There is a second difference, somewhat more subtle. As text files can be "chained" in a master program in WRITER, there is no necessity to write the essay in the order in which it will ultimately be presented. One could type in the Conclusions, for example, save it to file, and then do the Introduction, etc. This ability, coupled with the ability to get numerous hard-copy drafts, actually changes the method of preparing essays or reports. The time-consuming part is to type in the text. Additions, deletions and so on are so easily and quickly done, that the first version can be very rough indeed.

Nonetheless, despite the "roughness" of this draft, hard copy can be immediately obtained, which is not the case with any other method. Unconsciously, almost, one attends to imperfections in style and layout while editing.

A word of warning. TI-WRITER is fairly

complex. It is a very powerful tool, but it pays to work through the examples given in the quite comprehensive manual before undertaking one's first report. (Doug Thomas claims that he spent a long weekend on WRITER before using it seriously.)

There is another point to consider. Often, a new User of WRITER also has a new printer to become familiar with as well, so be patient. Read the advice given under "Tips" later. We all make mistakes, but after reading "Tips", let's hope you don't make the same ones over again.

GENERAL DESCRIPTION OF TI-WRITER.

TI-WRITER comes in a large folder. The folder contains a manual, a program diskette, and a Command Module.

The diskette must be placed in disk drive No.1, (if you are lucky enough to have more than one). It contains the four operating programs - EDITA1, EDITA2, FORMA1, FORMA2, and a couple of practice files.

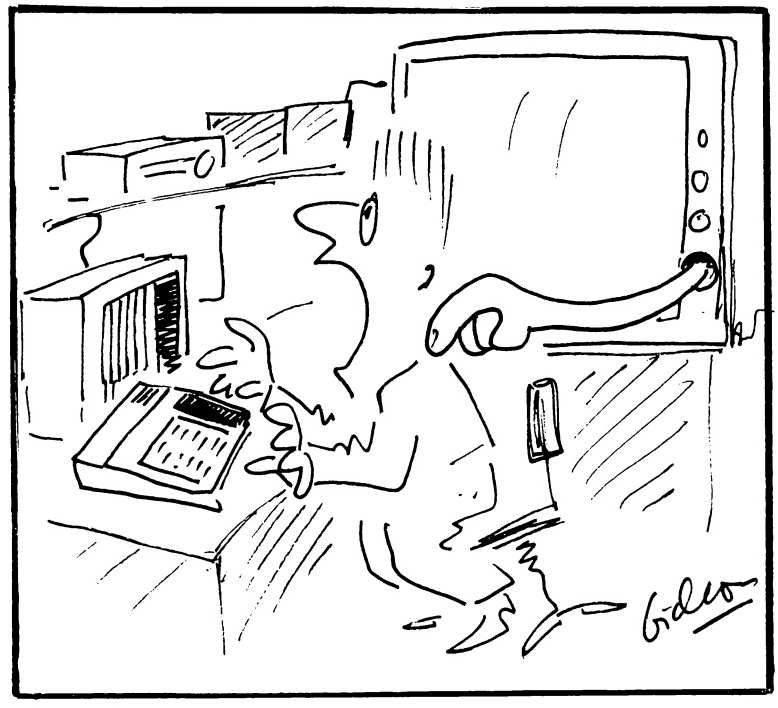
Because of memory limitations, presumably, the operation of the word processor is split into two parts - "Text Editor", and "Text Formatter". (In fact, the title screen does have a third option, "Utility", but no software is available for this at present.)

In "Text Editor" mode, you have the facility to enter and edit text. This is the text manipulation area, if you like.

In "Text Formatter" mode, you tell the computer the instructions you wish to give the printer ; i.e. filename, printer "devicename", no. of copies, what part of the text, if not all, that you want printed out, and some other details the computer needs to know related to mailing lists, of which more later.

One cannot go directly from one mode to the other without saving text from the Editor to disk. While annoying, there are reasons for this. The most obvious is that if you have a standard letter of reply to certain people, there is no need to edit it each time. All that has to be done is to go directly to "Formatter" mode, provide the details asked for, and out comes your standard letter.

Aha! but what about things like the date and the person's name on this standard letter, you ask. TI haven't overlooked this either. There is a means of prompting which you can insert in the Edit mode, which will prompt you for details such as date, name, adddress, etc. from Formatter mode.



TEXT EDITOR.

After you have chosen "Text Editor", and the disk drive has run the appropriate program, you are faced with a blue screen, mostly blank, but with a series of command choices along the top. These are - Edit, Tabs, Files, Lines, SearcH, RecoverEdit or Quit.

No, there are no typographical errors above. The various modes can be accessed by typing the letters shown in Capitals only. (e.g. to "SearcH", type "SH", for "Files", type "F" and press <enter>, etc.)

Tabs

You do not start by typing in text. First, you set the TAB settings for the text to appear on the screen,not necessarily on the printout. Type "T" and <enter>, and a series of numbers appears on the top of the screen. The numbers go from 0 to 79. These are the columns of text, by which margins and paragraph indentation are set. You simply move along the row with the space bar, and type in "L" for left margin, "I" for paragraph indentation, and "R" to indicate right margin. Additionally, by typing "T" at any particular position, Tab settings can be placed on the line. This allows lining up figures in tables very easily.

It has been mentioned above that there are 80 columns available for each line of text. These do not, however, fit on the screen - in fact, only around 33 of them are visible at any one time. TI have solved the problem by having three "windows" to view the left, middle, and right parts of text. Moving from one to the other is by a keystroke. It sounds clumsy, but in fact, you soon get used to it.

Edit

This is the mode in which you enter and edit text. There are a multitude of commands available, which are explained in the manual. Perhaps, however, one can grasp the power of TI-WRITER by a short description of how one starts entering text.

First, however, there is one point about the keyboard. Three keys do not have their normal function. The ampersand (&) when used immediately preceding a word, causes that word to be underlined by the printer. To get an ampersand into text, you type two of them.

The caret (SHIFT 6) is used as a "required space". As the computer (see "Fill" below), usually ignores spaces, if you really want them, typing a caret, or several of them, will result in the spaces being printed out.

The "at" symbol, (SHIFT 2), causes the printer to emphase the word immediately following it by striking the letters four times.

If more than one word is to be emphasized or underlined, they have to be joined with carets (required spaces). To have the "at" or "caret" symbols printed, they have to be transliterated to another keyboard symbol.

The computer has been been programmed to recognize certain commands within the text. These are not printed out, but are used to set certain options which are available. All of these commands are of two letters, preceded by a period ".". (Moral: don't commence a line of text with a period - it will not be printed!)

On the first line of text, you would tell the computer whether you wish to prepare a form or straight text. The command ".FI" (Fill) causes all excessive spaces to be ignored on printout. That's fine for text, not so good if you are preparing a standard form in which you want spaces to be present. As well, changes of margin after the first setting of margins, is ignored unless you are in Fill mode.

The next instruction is if you want right-hand justification; that is, an even right margin. For this, you type ".AD" (Adjust).

The defaults are "NoFill", and "NoAdjust". To change from Fill mode to NoFill, the command ".NF" is used; Likewise ".NA" for NoAdjust. An example of their usè in a report is where you wish to go from descriptive text to a table of results.

Next you would set any printer commands you wish to be transmitted. As most printer commands are not directly accessible from the keyboard, you can use the "Transliterate" (.TL) function to enable a character on the keyboard to be understood by the computer as a specific command, usually for your printer, but not always. For example, the caret (SHIFT 6) is read by WRITER to mean a "required space", so when it reads the caret, it prints a space. If you really want the caret to be printed, it must be transliterated to another key, say FCTN A "½". So when the computer reads "½", it will print a caret.

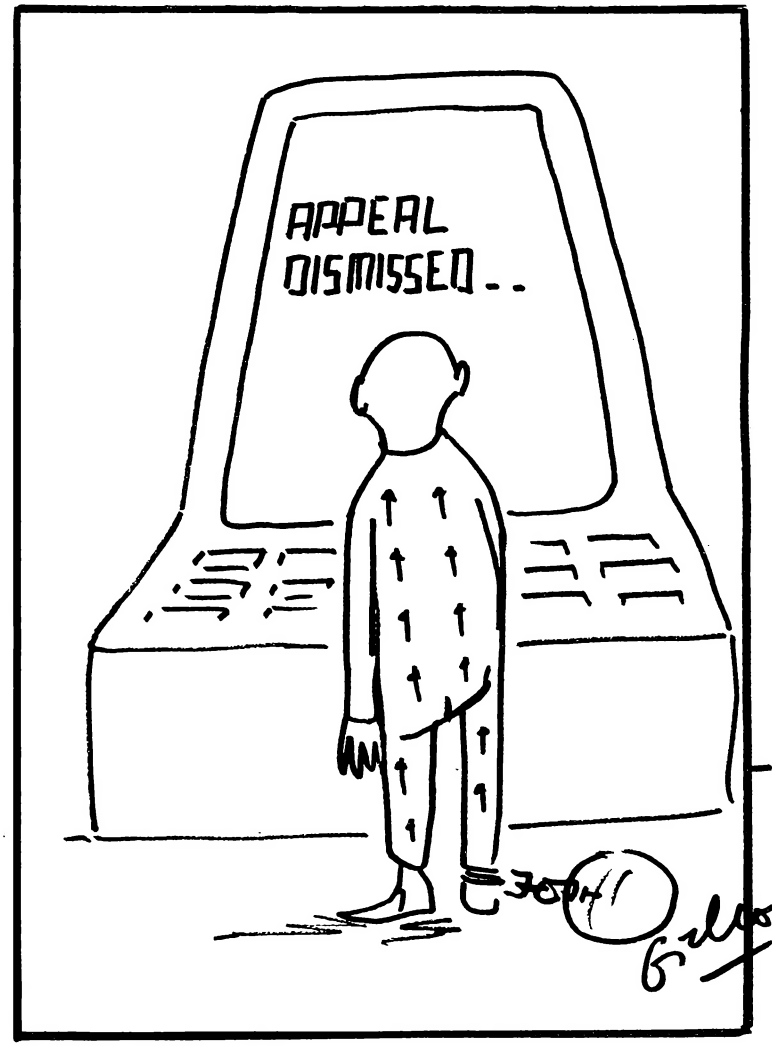
Having set the transliterate commands, you will need to define the margins and paragraph indentation you wish to be used on the printout. (See TABS). They are quite simple, being .LM, .RM and .IN, each followed by the column number.

You may then define line spacing by".LS n" (default is single-spacing), page length by ".PL n" (default is 66).

Having done all this, you can now get on to typing your text. This is easier than on a typewriter, as you don't need to worry about line length - the computer "wraps" lines automatically. When you reach the end of a paragraph, or the end of a line which you wish to be printed only on that line, e.g. a heading, press <enter>, and the cursor will appear at the start of the next paragraph.

Various other commands can be inserted into text - ".CE n" will centre the next n lines, ".BP" will start a new page, and so on.

We now come to a very useful command, the



so-called "Define Prompt". This is used if one has a standard letter, but one wishes to update certain details each time it is printed out. Certainly, one can make the changes by editing the text, but this is not necessary. Suppose that you wish to insert the date into a letter.

In the text, at the position you wish to locate the date, you simply type "*1*". Then when the text is being printed from Text Formatter, when this is encountered, printing will stop, and you will be prompted "Enter data for *1*"; you type in the date, and printing continues.

Suppose, however, there are several items of information needed to be inserted each time. For the second, you use "*2*", the third, "*3*" and so on. Fine, but you have to remember what these are. There is a further facility at your disposal. You can define the prompt which appears on the screen on each occasion by inserting, early in the text, ".DP 1:NAME", for example. Then, when "" is encountered, you will be prompted by "NAME?" etc.

This is fine if there are only a few items to be entered, or only a few copies to be run off. The relevant information has to be entered for each copy. If you have a lot of letters to be sent, there is another way. You create a separate file of, say, names and addresses, and for copy one, the "mail list" file will be accessed, and the first entry will be printed. On the second copy, the second one will appear, and so on.

Files

This section has several subsections. You can SaveFiles, LoadFiles, DeleteFiles, PrintFiles, ShowDirectory or Purge.

Most of these are self-explanatory. PrintFile does print out your file, but it does so exactly as it is on the screen, special commands and all. It is a checking printout, not a final printout.

ShowDirectory displays the contents of your disk, or disks. Purge empties the text memory. It won't do it directly, however, asking you "Are you sure?", to which "Y" must be answered - a wise precaution.

LoadFile does have a useful adjunct. As well as allowing you to load text previously saved, you also have the provision to merge a file from disk memory into the text you currently have on-screen. Very useful!

Finally, for both Files and any other set which has sub-commands, you do not need to type "F" and then "LF" to load a file for example. "LF" can be typed directly.

Lines

Lines has several sub-commands also. Move, Copy, Delete and Show. If you wish to rearrange the text, a line, or a series of them can be moved from one position to another in text. Likewise, they can be copied, but in this case, the lines copied still appear in their original position, whereas they don't with Move. Delete is obvious. Show will move the cursor to any chosen line number.

Search

SearcH has two sub-commands; FindString and ReplaceString. Their use is obvious; the first is used to find a particular string, the second to replace a particular string, once, or at several, or at every occurrence in the text.

RecoverEdit

This function allows one to recover a file purged from the text buffer. However, if other actions relating to files have been conducted in the meantime, it may render this function inoperative.

Quit

This command is the "way out". It has three options -Exit, Purge and Save. Exit leaves the Text Editor, and returns you to the master screen, Purge has been described, and Save reminds you to save your file before exitting.

That is a brief description of how it works. Additionally, the top row of keys are fully utilized, each key having two funcions, one addressed by "FCTN" and the other by "CTRL". Probably the most used is FCTN 9, the Command Escape key. This gets you out of Edit mode, back to the choice of other commands such as Files, etc. In general, FCTN 9 gets you out of what you are "in", and back to where you "were".

TEXT FORMATTER

The Text Formatter is the mode where the final Instructions are given to the Printer. It starts by asking for Filename, then Printer Devicename. This latter is a jolly nuisance - after all, most users will always be using the same one. It's a shame there is not a way to enter one's devicename once, and afterwards it will appear as a default value. (Typing in "RS232.BA=9600.LF" becomes tiresome.)

The "Mail List" prompt appears next. This is a facility whereby you can create a separate file of, say, names and addresses, which the text file accesses on each copy. It is extremely useful for standard, but "personalised", letters.

"Number of Copies" is self-explanatory.

Then one has the choice of which pages are to be printed, default being "A" (all). Again, very useful.

Finally, you choose whether to pause after each page has been printed, or not. It usually pays to pause, as the printer head can then be reset on the perforation if necessary.

Spelling Practice

By Ray Brown, Beecroft, N.S.W.

Ray wrote this program for use with his own family, only having a basic computer and cassette recorder available. This program could be enhanced using a speech synthesizer and the TE-II module, however this version is for cassette only.

The program has facilities for 5 separate persons using different lists, or for entering 5 distinct lists of 20 words each. Options are given for the speller to select how many of the 20, and which ones they wish to spell consecutively, with the program displaying the words initially. Two chances are given at spelling the word correctly, and if not sucessful, the correct spelling is displayed. When the list is completed the screen then shows the words spelt correctly and incorrectly, and a score and appropriate message is given.

The names of the spellers, or references can be inserted in line 390 to customize this program for your family.

Spelling words are entered in as DATA statements in lines No. 2000, 2010, 2020, 2030, 2040. Note: Make sure that a "," follows each entry, that no more than 20 words are entered in each DATA statement, and that the last entry in the line is "EOF".

Now to the use of tape with this program. Each Child is given their own tape and they then record their words on the tape as follows:-

"Word 1 is CAT. The cat sat on the mat."

"Word 2 is DOG. The dog barked loudly", etc..

The child then plays their tape, one word at a time and stops the recorder after each word either by the pause or stop buttons, then spells the word, before proceeding to the next word.

```
100 REM  Copyright - SOFTEX
P/L
110 REM**SPELLING PRACTICE**
Ordinary or Extended Basic
120 REM *** R.H. BROWN ****
130 REM  ***  BEECROFT  ****
140 REM *** MAIN PROGRAM***
150 DIM W$(20),R$(20)
160 CALL CLEAR
170 CALL SCREEN(5)
180 CALL COLOR(9,8,8)
190 CALL HCHAR(1,1,96,128)
200 CALL HCHAR(21,1,96,128)
210 CALL VCHAR(1,1,96,72)
220 CALL VCHAR(1,31,96,72)
230 CALL COLOR(10,15,15)
240 CALL HCHAR(5,4,104,25)
250 FOR C=1 TO 8
260 CALL COLOR(C,2,15)
270 NEXT C
280 B$="  SPELLING PRACTICE"
290 R=7
300 GOSUB 1890
310 B$="         AN
         R.H.BROWN
 PRODUCTION"
320 R=13
330 GOSUB 1890
340 FOR RHB=1 TO 1000
350 NEXT RHB
360 CALL CLEAR
370 CALL SCREEN(4)
380 PRINT "      SPELLING PR
ACTICE ": : : : :
390 PRINT "THE CHAMPION SPEL
LERS ARE:": :"1.PERSON 1": :
"2.PERSON 2": :"3.PERSON 3":
 :"4.PERSON 4": :"5.PERSON 5
": : : :
400 INPUT "ENTER YOUR NUMBER
":N
410 PRINT : :
420 IF N>=6 THEN 430 ELSE 45
0
430 PRINT "THERE IS NOT A SP
ELLER WITH THAT NUMBER!
440 GOTO 400
450 ON N GOSUB 460,480,500,5
20,540
460 RESTORE 2000
470 GOTO 550
480 RESTORE 2010
490 GOTO 550
500 RESTORE 2020
510 GOTO 550
520 RESTORE 2030
530 GOTO 550
540 RESTORE 2040
550 CALL CLEAR
560 B$="THE MOST WORDS YOU C
AN  CHOOSE TO SPELL AT ANY
ONE TIME ARE 20."
570 R=11
580 GOSUB 1890
590 INPUT "THE NUMBER OF FIR
ST WORD?=":A
600 INPUT "THE NUMBER OF LAS
T WORD?  ":Z
610 IF A>Z THEN 590
620 IF (Z-A+1)>20 THEN 630 E
LSE 650
630 PRINT "YOU ASKED TO SPEL
L TOO MANY WORDS! THE MOST Y
OU CAN HAVEARE 20.": :
640 GOTO 590
650 CALL CLEAR
660 B$="COMING UP IS YOUR
      SPELLING LIST"
670 R=12
680 GOSUB 1890
690 FOR F=1 TO A-1
700 READ X$
710 NEXT F
720 K=0
730 FOR I=A TO Z
740 READ X$
750 IF X$="EOF" THEN 800
760 K=K+1
770 W$(K)=X$
780 PRINT I;W$(K)
790 NEXT I
800 PRINT :"  PRESS ANY KEY
TO CONTINUE"
810 CALL KEY(0,K,S)
820 IF S=0 THEN 810
830 IF N=1 THEN RESTORE 2000
840 IF N=2 THEN RESTORE 2010
850 IF N=3 THEN RESTORE 2020
860 IF N=4 THEN RESTORE 2030
870 IF N=5 THEN RESTORE 2040
880 CALL CLEAR
890 IF A=1 THEN 930
900 FOR I=1 TO (A-1)
910 READ X$
920 NEXT I
930 SCORE=0
940 FOR K=1 TO (Z-A+1)
950 W$(K)="   "
960 NEXT K
970 K=0
980 FOR I=A TO Z
990 READ X$
1000 K=K+1
1010 IF X$="EOF" THEN 1100
1020 PRINT I;
1030 INPUT "       ":A$
1040 IF A$=X$ THEN 1070
1050 GOSUB 1570
1060 GOTO 1090
1070 GOSUB 1740
1080 CALL SCREEN(4)
1090 NEXT I
1100 FOR D=1 TO 1400
1110 NEXT D
1120 CALL CLEAR
1130 B$="COMING UP IS YOUR
       SPELLING LIST"
1140 R=12
1150 GOSUB 1890
```

```
1160 FOR DEL=1 TO 700
1170 NEXT DEL
1180 CALL CLEAR
1190 PRINT "   INCORRECT";"
 ";"CORRECT"
1200 K=0
1210 FOR I=A TO Z
1220 K=K+1
1230 PRINT I:W$(K),R$(K)
1240 NEXT I
1250 PRINT
1260 PRINT "PRESS ANY KEY TO
 FIND OUT   YOUR SCORE"
1270 CALL KEY(5,P,STA)
1280 IF STA=0 THEN 1270
1290 IF P=153 THEN 1310 ELSE
 1310
1300 IF P=187 THEN 1310
1310 CALL CLEAR
1320 PRINT : : : : : : :
1330 PRINT "YOU SPELT";SCORE
;"OUT OF";(Z-A+1);"CORRECTLY
": : : : : : :
1340 M=100*SCORE/(Z-A+1)
1350 IF (M>=0)*(M<=30)THEN 1
400
1360 IF (M>30)*(M<=50)THEN 1
420
1370 IF (M>50)*(M<=75)THEN 1
440
1380 IF (M>75)*(M<=99)THEN 1
460
1390 IF M=100 THEN 1480 ELSE
 1350
1400 PRINT "YOU CAN SPELL BE
TTER THAN   THAT! TRY AGAIN.
"
1410 GOTO 1490
1420 PRINT "YOU NEED TO IMPR
OVE! KEEP   TRYING."
1430 GOTO 1490
1440 PRINT "QUITE GOOD! KEEP
 TRYING."
1450 GOTO 1490
1460 PRINT "TERRIFIC, BUT NO
T PERFECT!"
1470 GOTO 1490
1480 PRINT "YOU ARE A
          SUPER-DOOPER-SPE
LLER!"
1490 PRINT : : : : : :
1500 PRINT "DO YOU WANT TO S
PELL THE    WORDS AGAIN? (Y/
N)": : : : : :
1510 CALL KEY(3,K,S)
1520 IF S=0 THEN 1510
1530 IF K<>78 THEN 380
1540 CALL CLEAR
1550 PRINT "BYE BYE": : :"SE
E YOU AGAIN SOON": : : :
1560 END
1570 REM SPELT WRONGLY***
1580 INPUT "INCORRECT
          TRY AGAIN ":A$
1590 IF A$=X$ THEN 1740
1600 W$(K)=X$
1610 R$(K)=" "
1620 CALL SCREEN(14)
1630 CALL SOUND(700,110,0)
1640 FOR DLY=1 TO 250
1650 NEXT DLY
1660 PRINT : :
1670 PRINT "THE CORRECT SPEL
LING IS ": :"          "&X$
1680 FOR R=1 TO 11
1690 PRINT "           "&X$
1700 NEXT R
1710 PRINT : :
1720 CALL SCREEN(4)
1730 RETURN
1740 REM  SPELT CORRECTLY***
1750 R$(K)=X$
1760 W$(K)="       "
1770 PRINT : : :
1780 PRINT "CORRECT! - GOOD
WORK.": : :
1790 CALL SOUND(200.262,9)
1800 CALL SCREEN(10)
1810 CALL SOUND(550,330,9)
1820 CALL SCREEN(12)
1830 CALL SOUND(500,392,9)
1840 CALL SCREEN(8)
1850 CALL SOUND(400,523,9)
1860 CALL SCREEN(4)
1870 SCORE=SCORE+1
1880 RETURN
1890 CNT=0
1900 FOR C=7 TO 30
1910 CNT=CNT+1
1920 IF CNT>LEN(B$)THEN 1970
1930 CALL HCHAR(R,C,ASC(SEG$
(B$,CNT,1)))
1940 NEXT C
1950 R=R+2
1960 GOTO 1900
1970 RETURN
1980 REM
1990 REM
2000 DATA TYPE,YOUR,SPELLING
,WORDS,IN,THE,DATA,LINES,HER
E,AND,BELOW,ACCORDING,TO,THE
,NUMBER,OF,THE,PERSON,EOF
2010 DATA WORDS,FOR,THE,SECO
ND,PERSON,EOF
2020 DATA WORDS,FOR,THE,THIR
D,PERSON,EOF
2030 DATA WORDS,FOR,THE,FOUR
TH,PERSON,EOF
2040 DATA RAY,BROWN,BEECROFT
,EOF
```

NEW SOFTWARE FROM IMAGIC

Imagic have released the following games programs for the 99/4A.

BUCK ROGERS A space game...$34.95

STAR TREK A voyage through space.....$34.95

M*A*S*H Yes, it's based in Korea!..$34.95

SLYMOIDS Fight off aliens! $34.95

RETURN to PIRATE'S ISLE An adventure game $29.95

FATHOM Imagic say it has the best graphics of any of their games. $34.95

SUPER DEMON ATTACK The ultimate "Space Invaders" game. $29.95

MICROSURGEON Navigate the healing robot through the patient's bloodstream...$34.95

MOONSWEEPER Rescue miners stranded on a moon of Jupiter. $29.95

Workstations

By Wayne Worladge

This article was prompted by several factors. Firstly, being involved with a User Group usually means going to other people's homes, and in doing so, one tends to see a large variety of ways in which a computer has been integrated into the household.

A lot of households have not come to grips with having a computer in the home,however. One sees computers on coffee tables, sideboards, even the floor. That is, the computer is in a place from where it shall have to be moved as other needs dictate. It is either in the way, or out of the way. In either case, it is a fair bet that eventually, the computer will be "put away", to fall into disuse.

A common complaint is voiced:" There is nowhere for the darn thing - I wish we had a proper Study." (For "Study" substitute "games room", "extra room", etc.)

Now these same people have a place for their stereo, their video, TV, and all the other pieces of electronic paraphenalia that clutter our lives. What's so different about their computer? Easy - it's interactive, not passive. You do not just sit and watch, or hear - you have to respond to it, interact with it, and this is where the problem lies.

All this difficulty can be resolved with one input - a little imagination. What are the needs, and what is available to fill those needs? The needs are few - one has to be able to comfortably reach the keyboard, and to comfortably view the screen. It is also an advantage if the cassette and other peripheral devices are at hand, but it is not absolutely necessary. It is really a function of how often the computer is to be used.

The means available vary from house to house, and depend upon the priorities in each house. I repeat, however, within those restrictions, imagination is all that is needed. Examples of innovative systems shall be descibed later in the article.

The second stimulus was an article by the same name in "99'er Enthusiast", in December, 1983. That article was very interesting, as it described the workstations that the International Users Group have at their office. I should add, that the interest, for me, was the description of their computers and associated peripherals - they certainly have a lot of gear!

As far as the workstations themselves were concerned, I must confess to some disappointment. There seemed to me to be very little that one could not have foreseen - basically various permutations and combinations of desktops and chairs. To be fair however, I should add that they were describing an office environment, where space is not at a premium as it is in one's home. Nonetheless, I did not see anything wich really attracted me about the layouts described.

People who use their computer a lot have been forced to put conscious effort into thinking about their computer, where it should be, and more importantly where it can be.

The questions which must be answered are
a) Who is going to use it?
b) What is it to be used for?
c) When is it going to be used?

Some readers may well say:" The computer determines where it is to be put - near the TV of course!" To those who say that I respond by wishing you luck, for the family TV rarely works well as a computer monitor - not that it cannot, technically; it's just that there will be arguments about who gets priority of use, and after the novelty has worn off, the TV watchers will win 95 times out of a hundred. (This comment is made about families with children - single people, or couples without children may not face the same problems.) So the first point is; it is likely the computer will have to have its own TV set. This is not a huge problem - ex-rental sets can be bought with a warranty at a reasonable price.

So, which room shall the computer occupy? A study is ideal, of course, but not all houses have them. Perhaps it may have to occupy a cupboard, or be built in somewhere. Furniture manufacturers have long ago recognized the business opportunities afforded by stereos, TV sets and so on, and off-the-shelf cabinets can be bought to accomodate these items. Computer stations are available, but seem to be very costly.

In designing a system, one has to consider:
a) The console;
b) The Expansion Box;
c) The monitor;
d) The Printer;
e) The cassette player;
f) Module, cassette, disk storage;
g) Reference books and manuals.

With the exception of the monitor, which should be at eye level, all the rest should be within easy reach, the most important being the console.

The next consideration is: how many people are likely to wish to use the computer? It's fine if you are the only addict in the house; but with a machine such as the 99/4A, it is likely that children (varying in age from 10 to 90) may wish to play games, and some games allow for multiple players - Yahtzee can have up to 4, for instance. Thus, it would be wise to allow sufficient room to enable the players to reach the console, or at least be able to easily see the screen.

My own system has evolved over the past 3 and a half years. My original requirement was to have the computer portable, and I therefore decided to have it on a trolley. I converted an old fish-tank stand to incorporate a fold-down bench. The console sat on this whilst being used, and was pushed backwards into the cabinet when not in use, or when the setup had to be moved from room to room. I put castors on the legs of the stand, and the monitor on the top part. Modules and tapes were stored on a lower shelf.

This system had a few drawbacks; it was top-heavy, making movement hazardous for both the mover and the computer. Also, the console did not appreciate frequently being pushed and pulled; cables tended to fall out. After a while, the computer stayed permanently in the study.

Then I acquired the old 99/4 stand-alone peripherals, and a "Denali backer-bus"(TM) which allowed the peripherals to be placed behind the console. All very well, but this used up all the bench space, and put an end to pushing the console in and out. Then came the printer and the 99/4A, and revision had to be made.

I felt if I was going to change the system, I may as well make it transportable, so it could be taken to User Group meetings. Thus, the present setup eventuated, which has been modified in height since to accomodate the Expansion Box.

I made a wooden base, which accomodated the console and peripherals. The next level held the cassette, modem and disk drive(s). Above that was the monitor. With the old-style peripherals, I had a large number of power cords, 14 in all, which were a jolly nuisance. I put some thought into the location of the printer. Most printers are located on a benchtop to the right or left of the console. Either way, I felt that it was inconvenient, as it is difficult to see the printout without standing up. (To the left is the preferable of the two.) Accordingly, I modified the old fish-tank stand once again, converting it to a mobile stand for the printer. I purchased a 54 slot cassette drawer, and it fits neatly underneath the printer, on a lower shelf, and modules are stored there. On the bottom shelf of the stand is the box of paper to feed the printer.

I acquired an "L" shaped office desk, and the computer is placed on the narrow part. Hence, I can work at the desk, turn left to reach the computer, and while at the computer, the printer is on my left again. In other words I'm boxed into a U-shaped setup. If others wish to be near the computer, the printer trolley is simply pushed out of the way. (I use a long cable on the printer.)

With the peripheral Expansion Box, I have cut the number of power cords to 7, which with a piggy-back plug, I fit into a six-pack powerboard, attached to the side of the computer stand.

The system is very convenient, and it is transportable, though it's a two man job to carry it to and from the car. To fit the "Box", I had to raise the top shelf, and now the box and an extra disk drive occupy the middle shelf, and the modem fits next to the monitor on the top shelf. On top of the modem, I have stacked the disk storage drawers. The cassette fits neatly, at an angle to the horizontal, to the right of the console.

In all, I'm pleased with my system, but I do have the advantage of having a study, which not everyone else has. Others have had to use much more imagination.

Continued-By Doug Thomas.

I have two TI-99/4A's in my house, the second one being a back-up unit which is used by my girls. Initially it was perched upon a small kiddies table along with the TV (NTSC Moniter version) and one tried to balance one's over large posterior on the small kids chairs. Whilst this worked, it was bulky and tended to collect lots of dust. The girls had outgrown the table (which was not as secure as it might have been) and chairs, and my 'Wife' who is always looking for more storage space delivered an ultimatum that something had to be done.

After a quick check of various catologues without sucess, I began thinking about building one myself. Before I had time to do anything about this (give or take a few weeks, can't rush these things you know) I was 'told' that a teak bookcase that was on special at K-Mart was just what we needed. After disposing of $125.00, coming home and spending an hour or so with the screw driver and hammer the bookcase was constructed (came in knock-down kit).

The TV was next balanced! on the shelf, but as the shelf was too narrow it did not look too secure. After some thought, we set about converting the bookcase for use as a computer desk. First I purchased a large sheet of matching teak veneer, 2 drawer slides (about the hardest item to track down - purchased from Hinge-ware distributors P/L.) together with some confirmat screws (for fastening chipboard) and set to modifying the bookcase.

First, I cut a replacement shelf 14" (35.5 cm if we must use metric) wide and replaced the existing one. That gave me a firm and secure self for the TV.

I then cut another shelf 16" (40.7 cm) wide, but narrower in order to attach the two drawer slides, which allow the shelf to be pulled out some 7" from the stored position. I then mounted this under the shelf for the TV, allowing enough clearance for the keyboard with the modules in a Cartridge Expander clearance. After neatly positioning power cables, and using a kitchen chair this worked out very neatly.

There is enough room for a tape recorder on the side, and I've even had a stand alone 32K memory plugged in as well. If at some future date I wished to add an Expansion Box this could fit on the shelf below, although it would not be all that convenient for inserting disks.

My solution may not suit some of you, but we would be interested in any other ways you, our readers have solved your computer workstation problem. If we receive any photos, providing space permits we will run a further article on work stations in the future.

Operating Position

Closed-up Position

Talking to your Printer

By Wayne Worladge

There are many misconceptions regarding what one can do when printing out "hard copy" to a printer. It is the purpose of this article to explain what can be done.

Many people have become quite conversant with the techniques needed to display text onto a monitor screen. Some of these would be DISPLAY AT, ACCEPT AT, IMAGE Statements, and so on. When it comes to outputting the same data to a piece of paper, however, it seems not to be generally realized that the same techniques work just as well.

There is an important difference, one of concept. When placing information to the screen, it is usually desirable to work on one screen full at one time. Scrolling up from the bottom of the screen is not usually the way to get a polished presentation, and as a result, Extended Basic is often used, together with the DISPLAY AT and ACCEPT AT commands to locate text into fixed positions on the screen.

This is similar with printed output, but the difference is that you are only really concerned about the horizontal plane - i.e. which column the information shall appear upon. Thus, it is the arrangement across the line, more than down the page, which is of concern.

Certainly, one should consider what will appear on each page, and one would not want a table of results to span across two pages, but the effort invoved to rectify this problem is tiny compared to the care needed to ensure columns are lined up correctly.

Image statements are a simple and effective way of doing this for repetitive work, such as tables of results. An example would be :

```
150 OPEN #1:"PIO", OUTPUT
200 PRINT #1, USING 5000:A,B,C,D
5000 IMAGE ###.## ##### #.### ####
```

Note that the variables are separated by commas; only commas are needed as the image statement sets the spacing between the results being printed.

TAB settings can be used also, but these are more useful for once only work such as headings.

Multiple line printing can be used also, as for the screen, by using colons as print separators; for example:

```
120 PRINT #1:"THIS IS AN EXAMPLE":"OF
HOW TO USE PRINT": : :"SEPARATORS ON
YOUR PRINTER"
```

prints out as:

```
THIS IS AN EXAMPLE
OF HOW TO USE PRINT
SEPARATORS ON YOUR PRINTER.
```

Be careful with colons, though. In Extended basic, two adjacent colons means a new program line. If you wish to skip a couple of lines, as in the example above, leave a space between the colons.

GETTING THE MOST FROM YOUR PRINTER.

The great advantage of a dot/matrix printer is the ability one has to format in various styles. There is the ability in most dot-matrix printers to make a very professional presentation. Needless to say, for most work of this nature, a word-processor is necessary, and there are plenty of word-processor programs about, of which, for the TI 99/4A, TI-WRITER is probably the best. (See Issue No.1 for a good word-processor program).

Whatever you decide to do, whether a report, or a program, it is necessary to "speak" to your printer to tell it which mode you wish it to be in. This communication is done by transmitting "control characters" to the printer, which it recognizes not as characters to be printed onto paper, but as commands to enter, or to leave a particular mode.

These "control characters" follow a specific format, which, like all computer commands, must be religiously followed, or one does not get the desired result. Now, be warned! My comments relate to the AMUST 80DT printer. While they won't be the same for all printers, the general requirements are the same.

The first character in all but a very few cases is the "escape key", character 27. This character is not accessible directly from the keyboard, hence one must use the form CHR$(27) in programs. This must be followed by a semi-colon, then by the other character or characters specified in the printer manual. For example, to enter italics mode on my printer, a program must have a line such as:

PRINT #1: CHR$(27);"4"

prior to the program lines which are to print out in italics mode. Once a printer is set in a particular mode, it stays in that mode until returned to its normal mode by receipt of more control characters, or by turning the printer off, and then on again. If you like, printers have a "normal" mode in which they operate, unless told to do otherwise. To return the printer to "normal" mode from italics, the following line must appear in the program after the Italics printing has been done:

PRINT #1: CHR$(27);"5"

In other words, to put the printer into a particular mode, one simply sends a few extra characters to it, using the PRINT command, exactly as one would do to get characters printed out by the printer.

Before I describe the various options open to you, perhaps a description of some of the uses of the various printer modes is in order. In general, one shall use the special modes for style and presentation. In an essay, for example, when one quotes from another published work, the quote is often printed in italics, also more often than not, with narrower text lines than the rest of the manuscript.

Headings and areas of text which are to be emphasized are frequently underlined. The printer can be put into a mode whereby it will underline all text it prints until it is taken out of underline mode.

Emphasising of words or phrases was mentioned above. Another way to do the same is to double-strike the letters, i.e. make them more prominent than the rest of the text. This can be done in two different ways.

The dot-matrix printer forms letters by a series of dots, and its printed copy, while almost always acceptable, is rarely as good as that from a typewriter or a daisy-wheel printer, which use unbroken lines for the letter formation. However, the dot-matrix printout can be improved by using double-strike or emphasized modes.

If headings are required to be more prominent than underlined uppercase letters (capitals), then double-width characters can be printed, perhaps also with emphasised print.

Footnotes on manuscripts are better if printed in smaller than normal letters, and either subscript or condensed print can be used for these.

In scientific or mathematic works, variables are frequently expressed as powers; a normal typewriter would type "x squared as:

2
X

It looks, and is clumsy. However, by using superscript, it can be made look very professional.

How often does one type a letter on a word processor, only to find the page length has been exceeded, and the "yours sincerely, etc." appears on page 2. If you can't delete a line or two, then simply change the line spacing on the printout. Cram the lines a little closer, and, Hey Presto!, it's all on the one page. Perhaps you are using odd sized paper; no problem, just reset the page length.

Two further points are relevant. The special modes can be inserted anywhere in text; i.e one could go from normal, to underlined text, and back to normal, all in the one line. Also, modes can be combined to give a particular effect. For instance text can be double-struck, underlined and in double-width letters simultaneously.

Enough of examples. We shall now proceed with a more detailed look at the options.(Where "ESC" is referred to it means character 27).

1. Character Designation Modes.

1.1 Italics ESC 4,ESC 5

Italics mode is an oft-used mode for me. Leters look better in Italics (though this is, admittedly, a personal preference). Italics can also be used to emphasize words or phrases, as described above. ESC 4 enters italics mode, ESC 5 leaves it. (See example above).

1.2 Emphasized Characters ESC E,ESC F

Emphasized printing can be used as one way of getting "letter quality" print. In emphasized mode, the printing speed reduces to 50 cps.

1.3 Double-Strike Mode ESC G,ESC H

This is the other way to get "letter quality" print. Here, each letter is struck twice. (A warning here to users of TI-WRITER; it is very dicey to mix double strike with other printer modes, such as automatic underlining. The presence of other control characters can cause the double strike to lose registration.)

TI-WRITER has its own command for this mode, in which each letter is struck 4 times.

1.4 Subscript/Superscript ESC S,ESC T

Here, entry to the mode is the same for both super- and sub-script. The "S" is followed by "0" or "1" to determine which of the two you want.

For example, to enter superscript, a program line would read as follows:

PRINT #1: CHR$(27);"S";"0"

1.5 Underline Mode ESC -(minus)

This mode is entered with ESC,"-",1, and exitted with ESC,"-","0".

Again TI-WRITER has its own underline mode, but it automatically stops at the end of a line, or at the first blank character. To underline a series of words, the required space character must be used between each word, which is a bit of a pain. Additionally, printer underlining gives a continuous line on the Amust, whereas TI-WRITER'S system gives me a broken line. However on the Brother daisy-wheel, TI-WRITER'S underlining is continuous. It seems to depend on the printer.

1.6 Enlarged Characters SO,DC4

There are exceptions to every rule, and the next two examples prove it in this case.

Enlarged character mode is entered by one character only, character 14, and is left by use of character 20. These are not directly accessible from the keyboard, so they must be referred to as CHR$(14) and CHR$(20) in programs.

TI-Writer has the "Special Character Mode", and no transliteration is needed. CTRL "U" and SHIFT "N" get you in and CTRL "U" and SHIFT "T" get you out.

A word of warning for word processor users. The computer doesn't know the letters are double-width, so centering commands don't centre text, and headlines do not appear on the paper as they appear on the screen. One needs to do a spot of mathematics, counting each letter and space as two characters to obtain correct positioning in text.

1.7 Condensed Characters SI,DC2

Condensed characters are obtained with the input of character 15, and the mode is left with character 18. Again, TI-Writer's special character mode can be used.

One advantage of condensed characters is that 132 characters per page can be obtained.

Well, if you wish to know more, there is only one way - "hands-on" experience. Good luck!

News Briefs

****

More TI-WRITERs on the Water.

Imagic has announced that they have managed to source some more TI-WRITERs. Expected arrival time is around eight weeks. No price as yet, but when you consider that Users have paid between $49.00 and $135.00 for them in the past, Imagic have a lot of scope. It is our contention that, even at the higher price, it is excellent value. No news of "Mini-Writer", yet, though.

****

More "Widgets" Available Soon.

We have ordered our third consignment of Navarone Industries' "Widget" Cartridge Expander, and we expect delivery in early August. Despite the dramatic fall in the A$, price remains at $60.00.

****

Brother Announce EP-5 Printer

The success of the Brother EP-44 Portable Typewriter/Printer, Brother Industries have announced the availability of what is probably the least expensive 80 col. printer on the market, the Brother EP-5. It is the EP-44 sans keyboard, but including a parallel port as well as the RS232. Like the EP-44, it has excellent print quality. (See centre pages.)

****

THE 80-COLUMN CARD SURFACES AT LAST!

For years we have been hearing about an 80 column card for the Peripheral Expansion Box. Well, it has appeared...but there are problems.

Foundation Computing, of California has advertised the card for $249.00. It is described as "a full-fledged intelligent terminal card", with a 24 by 80 col. display., with a 25th. line of status information.

However, we think that there are limitations. Our advice is that the card requires a monitor, and that existing software, such as TI-Writer and Multiplan, cannot access it.

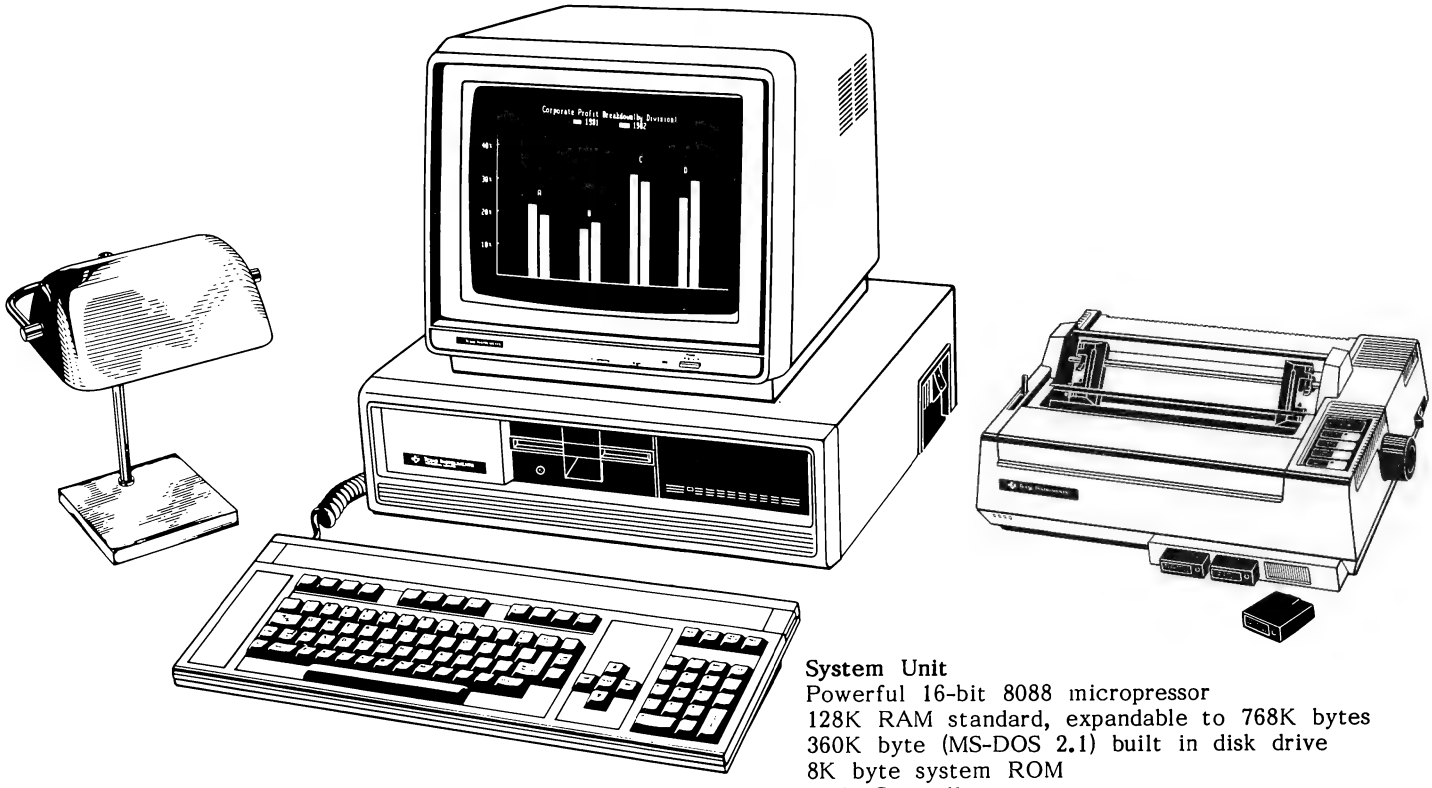
We are led to believe that software will soon be available for it. We are not certain of the above, but are attempting to ascertain more information, which we shall pass on.

Despite any short-term limitations, this peripheral could be very useful to dedicated users.

****

SOFTEX GOODIES

TI PROFESSIONAL COMPUTER



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97 keys, including separate numeric keypad, cursor control cluster, 12 special function keys and isolated edit/delete keys
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SOFTEX GOODIES

PRINTERS	Softex Price	P&P
AMUST-80DT Special,2 only	$350.00	E
AMUST DT-80/2, 100 cps.	$430.00	E
AMUST 120S Super, 120cps	$450.00	E
AMUST P88-2,120 cps.	$500.00	E
ASR-15 Silver-Reed,Daisy	$830.00	E
F10 Tec,132 col,Daisy,40cps	$2000.00	F
as above, Serial version	$2050.00	F
Microline 83A, 120cps.	$950.00	F
BROTHER HR-15 (Centronic)	$770.00	F
BROTHER HR-15 (RS232)	$810.00	F
BROTHER HR-25 (Centronic)	$1220.00	G
BROTHER HR-25 (RS232)	$1270.00	G
BROTHER EP-44	$350.00	E
BROTHER HR-5	$280.00	E
TI 850 Printer	$1110.00	G
TI 855 Printer	$1554.00	G

Misc., Monitors, etc.		
Diskette Boxes, Modular (ea)	$6.00	B
DT-80S, Serial Card	$125.00	B
P88-2 Serial Card, 2K Buffer	$125.00	B
GR1 Amust 12, 12in. Green Scr	$189.00	E
AM1 Amust 12, 12in. Taxan Amber Screen, Hi Res.	$199.00	E
AMT-12RGB, 12 in. Color	$545.00	F
AMT-14RGB/V, 14 in. Color, TTL-Analogue,switch select	$595.00	F
Monitor Stand	$35.00	C
DT-80 Ribbon	$12.95	A
P-88 Ribbon	$15.95	A
F10 Ribbon	$16.50	A
DT80-2 Ribbon	$14.95	A
F10-Tractor Feed	$295.00	E
Silver-Reed Tractor Feed	$222.00	E
Centronics Printer Cable	$40.00	A
RS-232 Printer Cable	$40.00	A
EP-44 Printer Cable	$30.00	A
C-62 Cassette Tape	$1.50	A
Shuttle Modems	$266.00	D
Modem Cable	$35.00	A

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National Slimline, DS/DD	$280.00	E
Chinon Slimline, DS/DD	$340.00	E
MPI B-52 Full size, DS/DD	$386.00	E
Tandon TM100-2, DS/DD	$386.00	E
Ext. Power Supply & cable	$120.00	E
Xidex SS/DD Disk, Box of 10	$40.00	B

Software		
Brick-Bat Pgm. Cassette	$12.00	
Brick-Bat Pgm. Disk	$15.00	
Finance Advisor Pgm-Disk	$12.00	
SOFTEX Pgms. Iss 1-3 Cass	$12.00	
SOFTEX Pgms. Iss 1-3 Disk	$15.00	
Cartridge Expander	$60.00	C
DBM Sort	$60.00	C
DBM Entry-coming	$60.00	C
DBM Reports-coming	$60.00	C
Disk Fixer	$60.00	C
Homework Helper	$60.00	C
Astrology-Horoscope	$70.00	C

Books		
Programs for the TI Home Comp.	$24.00	B
Introduction to Assembly Language for the TI Home Computer	$28.00	B
Home Computer Mag.,vol 4,No.2	$5.00	A
Best of 99'er	$28.00	B
Personal/Professional Computer -How they can help you?	$20.00	A

Computers		
Datatree DT-8 Computer, inc. 64K Z80-6502 CPU, 12in mon., 80 Col. card, 2 DS/DD Drives, & 80cps Dot-Matrix Printer.	$3275.00	H
Datatree DT-16 Micro Computer ,128K 8088 CPU, 12in. Green screen mon., Color/Graphics Adapter, 2 DS/DD Drives, 2 RS-232 Interfaces, Printer Interface, Disk controller for Floppy/Hard Disk	$4275.00	H

TI Professional Computers		
Systems unit, 128K RAM, single 320K Disk Drive, Keyboard, 12 in. B&W CRT/Controller	$4650.00	H
As above, but with 13in. Color CRT/Controller	$6036.00	H
Systems unit, 128K RAM, dual 320K Disk Drives, Keyboard, 12 B&W CRT/Controller	$5460.00	H
As above, but with 13in. Color CRT/Controller	$6846.00	H
Systems unit, 128K RAM, single 320K Disk Drive, Keyboard, 12 in. B&W CRT-controller, 10M-byte Winchester Disk	$8430.00	H
As above, but with 13in. Color CRT/Controller	$9816.00	H
Portable Computer, 128K RAM, single 320K Disk Drive, Keyboard, 9in. B&W CRT/Controller	$5136.00	H
As above, but with 9in. Color CRT/Controller	$6636.00	H
MS-DOS Operating System 1.25	$60.00	E
MS-DOS Operating System 2.11	$120.00	E
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P & P RATES

		D	$ 5.00
		E	$10.00
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B	$ 2.00	G	$20.00
C	$ 3.00	H	$35.00

SOFTEX GOODIES

SLIM LINE DISK DRIVES

SOFTEX now has available 2 brands of Slim Line Disk Drives for sale. Both are Double Sided/Double Density. You can connect these up as external drives, or with the Chinon model fit 2 Drives into the Expansion Box.

Also available 1 "pre-loved" External Disk Drive, SS/DD, for $270.00 complete with cabling.

Contact SOFTEX for your Disk Drives when the new Corcomp Expansion System arrives. This system does not have an internal Disk Drive.

PRINTERS

SOFTEX has one of the last DT-80 Printers in stock for a special price of $350.00.

A complete new range of 120 cps Printers are coming, with more features, particularly the Amust P88-2 with near letter quality printing and proportional spacing.

Watch for a review of these Printers next issue.

XIDEX DISKS

Take advantage of the XIDEX offer of Buy one, get one free (Max. 2 Boxes or 20 single Diskettes) available till October 1984 with a coupon from either Australian Personal Computer or Your Computer Magazines. Send your coupon to SOFTEX, with double the postage for ea. box ordered and stock up on cheap Disks. Due to the success of this offer delays may be experienced at times precuring stock, buy now so you do not miss out.

BOOKS

SOFTEX still has some copies of Home Computer Magazine, Volume 4, Number 2 only for $5.00. We also have copies of "The Best of 99'er", a well produced book full of programs and articles on the 99/4A. This would be about the best book on the 99/4A if you were not a original subscriber to 99'er Magazine.

Personal Professional Computers. This is the book to buy if you are wondering what a PC computer can do for you, it also helps you evaluate software available for them, giving some examples of differences between popular Word Processing, Data Base, Accounting, Project Management, Communications, and Speech Programs. A well written book giving the reader a complete basic understanding on the use of PC Computers. If you want to know more, then this is available from SOFTEX for $20.00, plus $1.00 postage.

SOFTEX PROGRAMS

SOFTEX now has an exciting Assembly Language game for sale, known as 'Brick-Bat'. In this game you use the 'S' and 'D' keys to reflect a bouncing ball into a brick wall, demolishing it as you go. Very quick reflex action is required to succeed in this game. Available either Cassette based requiring Mini-Memory for $12.00 or on Disk with Extended Basic and 32K memory for $15.00. In the case of the cassette version this program is loaded using the normal 'OLD CS1' routine. Go on, give this a try.

Programs from issues 1 to 3 of SOFTEX Magazine are now available on tape for $12.00 or Disk for $15.00, postage paid. This is the quick way to precure these programs without having to type them in.

Finance Advisor Program is available on Disk only for $12.00 postage paid. This program considers all avenues of loans, repayments, and which type of interest is cheaper, together with a tax program and budget. This program will soon tell you wheather you can afford those extras you want.

A complete Data Base Management system for the TI-99/4A is coming which will give you complete control over your records, being far more useful than PRK for the full system. Write for more details.

Cartridge Expander. This lets you switch between 3 modules quickly without causing wear and tear on the Module port of your computer and saves you suffering from the dreadful curse of lock-up (see review issue No. 3).

Homework Helper. This program is a simple way for a student to make notes of School assignments, coupled with a simple Word Processor. A new model coming out has a spell checker and a 12000 word dictionary. Requires 32K Memory and Disk Drive.

Disk Fixer. This module allows you to access each byte on any sector of a disk, and change them if required. With this module you can salvage a dud disk.

Astrology (Horoscope Maker). This produces 9 different House system charts (see article in this issue) and calculates the precise location of each planet. Requires Disk and 32K memory.

DBM Sort Utility. An Assembly Language sort program sorting up to ½ of a disks capacity at one time. Data must be stored with fixed fields. Requires 32K memory and Disk.

DATATREE DT-16 MICRO COMPUTER

Mother Board

CPU 8088 (optional 8087 Processor)
128K RAM with Parity
12K ROM
Two RS232 serial ports
Centronics parallel printer port
Baud rate:300-19200 BPS
Floppy drive interface controls up to 4 expansion slots
IBM-PC compatible
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3-channel timer for music and voice
Multiuser - 8 users can use at one time
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80/40 Display
Color Display - optional
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Can drive RGB Monitor and has composite signal output
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Optional Extras:

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All IBM optional cards available
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Software available:

MS-DOS, CP/M-86, MP/M-86, OASIS-16

Price: $4275.00 includes Tax

ENTRY FORM

SOFTEX SOFTWARE COMPETITION

I wish to enter this competition in the following categories:-

(a) Games
(b) Household Management
(c) Business/Utility

Tick cat. entering

and agree to abide by the Judges decisions and understand that all programs submitted become the property of SOFTEX P/L who have the right to publish or sell them.

Name: .....

Address: .....

Town: ..... **Post Code:** .....

Closing date 31.10.84. All cassettes and disks submitted will be returned.

DATATREE DT-2 COMPUTER

Features:

Built in Z80A processor, CP/M compatible
Built in 64K RAM
4 Expansion slots
Built-in cassette I/O port
Built-in 6502 processor, Apple compatible
24K ROM with softswitch control
High and low graphic resolution
40/80 column display switchable
Built-in video port and joystick port

Detachable Keyboard
12 function keys
Separate numeric keypad

12" green non-glare CRT
High resolution display
Tilt up/down easily

2 x DS/DD 5.25 Floppy Drives
1 80 column Dot-Matrix Printer

Optional Extras:

RS-232C Interface
PAL Color Card
Forth Card
128K RAM Card
Language Card
Integer
EPROM Writer
Colour Monitor

Price: $3275.00 includes tax

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Item	Cost
Total:	$

Order by sending cheque or by Bankcard

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Account Number

I hereby authorise Softex P/L to charge my

Bankcard Account the sum of $ .....

Expiry date ../../.. Min. Purchase $5.00

Signature .....

SOFTWARE COMPETITION

SOFTEX are pleased to announce our first software competition!

There are three categories:

a) Games;
b) Household Management;
c) Business/Utility.

The program judged to be the best in each category shall attract a prize of one "Widgit", or "Disk Fixer" or one of the "DBM" series from Navarone Industries, as advertised in this issue.

Applicants should use the entry form on page 22 of this issue.

Conditions:

1. Programs submitted shall become the property of Softex Pty.Ltd., who will have the right to publish or sell them.

2. Judging will be carried out by the Directors of Softex Pty.Ltd., and their decision shall be final.

3. Closing date for entries shall be 31st. October, 1984.

4. Entries should be posted to 59 Landstrom Quadrant, Kilsyth, Victoria, 3137.

Guidelines:

a) Consider carefully to whom your program will be attractive. Are you looking to the User with the full system, or a basic system? Remember that the owners of full systems are likely to be fairly fussy about programs, as they are likely to have a pretty comprehensive program library. Conversely, basic system users will probably appreciate a version of a program which emulates a program which only runs on the full system. For example, Home Computer Magazine, August, 1984, published a mini-spreadsheet program, giving basic system users access to a powerful tool previously only available to full-system users.

b) Look very carefully at your program. What happens if the wrong key is accidently pressed in response to a prompt? Does it bomb-out?

c) Are the instructions adequate? Try it out on a friend. If in-program instructions take too much memory, document them in writing.

d) How good is your presentation? Is the program visually attractive?

e) Have you fully utilised all the facilities available in the 99/4A? Is your program efficient in its execution?

All these factors will be taken into account in judging.

Software Review

Name-it

By Wayne Worladge

Produced by Extended Software Company,
11987 Cedarcreek Drive, Cincinnati, Ohio, 45240,
copyright 1982.

Acknowledgement:
I wish to express thanks to Dr. Jack Goldberg, of the Melbourne User Group, for lending me this program.

Those of our readers who are familiar with the Personal Record Keeping module may also be aware of one of its limitations - memory. Generally speaking, it will hold around 120 names and addresses, depending on how the fields are specified. One needs to show some foresight when designing files for PRK, in that if you are not careful, the file may well outgrow the computer's ability to handle it.

"Name-It" is a commercial program which overcomes this capacity problem, to a considerable extent. The version under review is disk-based, but there is a cassette-based version also. Extended Basic is required.

The program is more specific than PRK; i.e. it does not attempt to cover the whole gamut of possible files one may wish to keep. It restricts itself to files which do not require numerical manipulation. To quote, in part :
"Mailing Lists, Membership Rosters and Data, Teams (Sporting, etc.), Phone directories, Outline notes, Catalogues, Inventories."

Nonetheless, it is still a powerful package, and its files are compatible with an associated word processing package called "TI-Pwriter", sold separately by the same company.

The handbook which accompanies the package is quite comprehensive enough to enable one to get started in the least possible time. The disk has sample files on it to permit you to practise before getting serious, and to become familiar with the options.

The first question one would ask is "What will it do?", and the answer is straight forward. The file can hold 250 records, each of which contains 9 fields of 28 characters maximum. However, it is not necessary to utilize all characters and fields that are available.

The record items (fields) are pre-set to a business-application address list, but these do not have to be used. There is an option which enables you to change these to your own design.

A description of the options available follows.

1. Add Records: As you would expect, this is the section where you input your data. Beware, though, you must have already set your prompts and have created your file before any records can be added. (See 3, below).

The options in this mode are quite as one would expect; records can be added, deleted, amended, searched for, and so on. The screen displays your record filename, the prompts you have pre-set, the record number, and the main prompt of the last record in the file. (Main prompt is chosen by you when resetting the prompts. An example would be "lastname" in an address file.) Needless to say, in a new file, there is no last record.

There are a couple of interesting features here. Unlike PRK, which has a maximum of 15 characters per record item, this program allows 28, and so the prompt is on one line, and the record entry is on the line below. With the maximun number of prompts being used, it looks a little messy, but you get used to it. While the prompts are in uppercase letters, your entries appear in upper- and lower-case. Again, for a dedicated "TI-Writer" user, true lower-case instead of small capitals takes a bit of getting used to also.

At the base of the screen, the cursor will blink at "CHOICE?", and some very user-friendly programming has been done in respect of one's possible responses, as the delete, arrow, enter, back, aid, insert and erase keys possess very much the same capabilities as they normally possess. Thus learning of commands is facilitated. Very good!

Another interesting feature is the ability to look through the file. One can search for a record, using any characteristic string, go backwards or forwards through the file or choose a particular record number. Additionally, however, entry of a number from 1 to 9 in response to "CHOICE" will access the record nearest to the number you chose, times one tenth, times the number of records in the file. To make it clearer, if there were 90 records, and you pressed "3", record number 27 would be displayed. This gives one a rapid way of getting to a certain position in the file, after which, use of the arrow keys would move forward and back one record at a time.

2.Catalog Disk: This option allows you to check what is present on your disk, without

recourse to "Disk Manager".

3. Address a File; This option is the one you use first. It allows you to create a file, or open an existing one. After the file has been opened, you have to verify that it is the one you wanted. The prompts are displayed, and you must acknowledge you are satisfied. The main sort prompt has also to be verified.

One confusing message is given throughout the program and it is used here. After "CHOICE?" the term "enter null for main menu" appears. Why "press enter for main menu" could not have been used is beyond me. Still, one gets used to it.

4. Change Sort Base: This option is almost self-explanatory. It allows you to change the prompt on which the file is sorted.

5. Reset Prompts: In this section the basic structure of the file is created. You define the number and detail of each prompt, also the main prompt.

6. Preset Records: This is an interesting, and potentially useful feature. In this section, the answer to a prompt may be preset. For example, with a mailing list, you may know beforehand that nearly all your addresses will be in the same city. Thus you could preset the "City?" record item to "Sydney" for example. Then, when entering record items, "Sydney" will automatically appear as the record item, saving a lot of typing. If there were a few addresses not in Sydney, you simply overtype "Sydney" with the appropriate entry. Very thoughtful, Mr.Extended!

7. Sort: This allows you to sort all or some of the records using the preset sort base. It is claimed that 250 records rarely take more than 5 minutes to sort. That is probably a lot faster than PRK.

8. Print: Again, some thought has been put into this section. There are 9 different ways to print out your records. Seven of these are predefined in a particular format, and two are available for you to define your own. This section of the program more approximates Personal Report Generator than PRK. It has all the capabilities one would expect: Format (already mentioned), ability to print direct from screen, (for one-off labels), ability to print only specific records, etc. However, again there is one most useful item: you can store, (and change, if wished,) the special printer command characters you want to use, e.g. condensed print, line spacing, etc. Once set, they are stored away with your file, and are there next time you use that file. (I'd like a dollar for every time I have run through PRG to the stage of printing a report, only to suddenly recall I wanted the printer to be in condensed mode.)

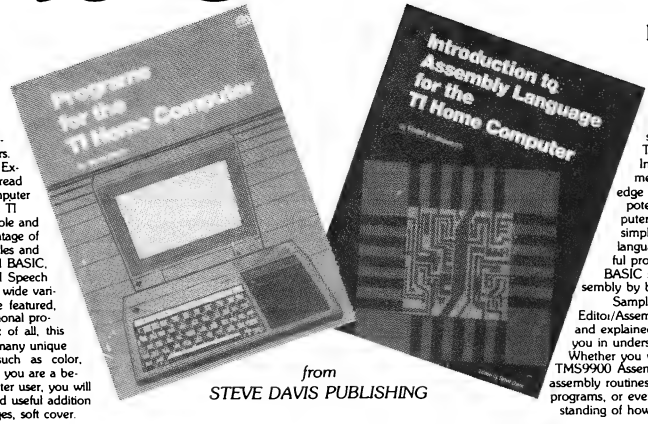
Finally, there is a "Form Letter" option which enables you to use variable data from "Name-It" as information in the "TI-PWRITER" word processor program, available separately. An example is stored on the disk to demonstrate this facility.

All in all, this is an excellent package. the authors have made it very eay to use, very hard to "crash", and it has some highly innovative features.

Two to Grow On . . .

Programs for the TI Home Computer
by Steve Davis

At last, here is a book of programs written especially for users of the popular Texas Instruments 99/4 and 99/4A home Computers. Fifty unique programs in TI BASIC and TI Extended BASIC are presented in an easy-to-read format, ready for you to type into your computer and use. Most of the programs are listed in TI BASIC and may be used with just the console and a cassette recorder, while others take advantage of the special capabilities of optional TI modules and peripheral equipment, such as TI Extended BASIC, Mini-Memory, Terminal Emulator II, the TI Speech Synthesizer, a printer or the disk system. A wide variety of programs for home applications are featured, including games and entertainment, educational programs, programming aids and more. Best of all, this volume offers programs that highlight the many unique features of the TI Home Computer, such as color, graphics, music, sound or speech. Whether you are a beginner or an experienced TI Home Computer user, you will find this collection to be an entertaining and useful addition to your program library. 8½x11, 128 pages, soft cover.



from
STEVE DAVIS PUBLISHING

Introduction to Assembly Language for the TI Home Computer
by Ralph Molesworth

This introductory text offers step-by-step instruction in getting started with the powerful TMS9900 Assembly Language for the Texas Instruments Home Computer. It is written to meet the needs of the beginner with a knowledge of TI BASIC who wishes to unlock the vast potential and speed of this popular 16-bit computer. This is an easy-to-read tutorial presenting simple-to-follow progressive steps from assembly language basics to the design and coding of useful programs and subroutines. Comparisons to TI BASIC statements help to teach you TMS9900 Assembly by building on your BASIC programming skills. Sample programs that can be entered with the TI Editor/Assembler or Mini-Memory modules are included and explained in detail. Charts, tables and diagrams aid you in understanding and are useful for future reference. Whether you wish to learn to write complete programs in TMS9900 Assembly Language, if you want to incorporate assembly routines into your TI BASIC and Extended BASIC programs, or even if you just wish to acquire a better understanding of how your TI Home Computer works, this book will help you.

$24.00 PLUS $2.00 P&P. $28.00 PLUS $2.00 P & P.

SEND YOUR CHEQUES TO: SOFTEX P/L,
59 LANDSTROM QUADRANT,
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Mini Feature

Importing

One of the questions I'm often asked is in relation to importing goods from overseas, principally from U.S.A.. As many have guessed there are some traps in this, and the cheap overseas prices are not such bargins when you finally get the goods.

Importing can be very frustrating, depending on the firm you are dealing with. I guess the worst Company I have delt with to date is The International 99/4 Users-Group, with an order placed on 1.1.84 still not completely filled yet (12.07.84). A request was made for goods to be sent airmail, but those goods sent to date came sea mail, taking in excess of 3 months to arrive, the first part arriving early June 1984. I might add, no notification has been sent to let us know if or when the balance might be received. This is hardly an ideal situation, but thankfully, most other companies respond very well.

Lets take an example of how the costs begin to rise, using for an example a Cartridge Expander that retails for $39.95 in U.S.A..

For Overseas orders a 10% shipping fee must be added, bringing the cost to $43.95 US. Next you have to obtain an International draft from a Bank which will convert US to Australian Dollars (not very healthly at the moment) where $1.00 US = $0.8210 Aust., making the cost $53.53 Aust., plus a $3.00 Bank Fee.

After purchasing a stamp, your costs are not yet finished as Custom Duties and Sales Tax have to be paid. Duty is assessed on the declared value of the goods, plus freight converted in Aust. Dollars, with Computer goods attracting only 2% now, compared with 5% for Hardware and up to 35% for Disk Software earlier. Duty adds a further $1.13, and then Sales Tax is calculated. Sales Tax is 20%, but the base figure for calculating this is not $57.66 as in our example, but is $69.19, ie. 20% is added to $57.66 before Sales Tax is calculated (This is supposed to approx. the profit margin if the goods were to be sold commercially). This adds another $13.84, making our total cost for a $39.95 US Cartridge Expander $71.50 Aust..

Got you thinking??? In regards to assessing duty for imported goods this can become quiet complicated, and if the total value of goods are over $500.00, then Customs will not except an informal clearance of goods and you will then need the services of a Custom Agent. Their fees are based on value of goods, with it being proportionally more expensive to bring in goods worth $600.00 than $3000.00 worth. The minimum fee is $57.50, which again adds to your cost of goods.

In the case of small and low cost items, parcels may be assessed for Duty and Sales Tax and then fowarded on to your local Post Office where you pay the required fee to obtain your goods. In other cases you receive a card from Customs telling you to pick up the goods from the International Parcel Post Office, where you claim the goods, have them checked, pay the prescribed fee and then be lucky enough to take the goods home. If you live in the country you may have no option but to use a Customs Agent to clear the goods for you. If goods are not collected within 2/3 days then Demurrage is payable.

Confused, I was initially. It is also frustrating when told to use a Customs Agent to collect an order amounting to $700.00.

Even with small goods dispatched directly to the Post Office some problems can arise. One of the articles ordered from the International 99/4 Users-Group was a Donkey Kong Module and the notification I received had the following information recorded on the card. "Declared Value $33.75, Customs Duty $13.17, Sales Tax $12.19, making a total of $25.36 payable. Having some experience with Customs I immediately questioned the amount shown for Duty (based on 30%) as I believed the appliciable rate was 5%. To my surprise Customs said a mistake had been made and NO Duty or Sales Tax was payable, saving $25.36.

Another problem that can arise is for the sender to declare an inflated value for the goods, which only increases your costs for Duty and Sales Tax.

With the poor service of Sea/Surface mail it is foolish to use anything but Airmail. I know of many persons who have given up ever receiving their goods believing they have gone astray, only to find them arrive some months later.

With the US Dollar gaining strength currently imports are becoming dearer, although the recent reduction in Duty has helped to some extent. In the above example the difference between the US cost of a Cartridge Expander and the landed Australian cost was an increase of some 80%, so when you see Commercial firms selling goods for about double the US price of the same goods I think you can see why the big difference in prices (assuming that the importer pays the normal US price).

After all the above I hope I haven't scared anyone off importing goods unavailable here. Before sending off on your own accord check first that someone doesn't import these goods and that their price for the goods are cheaper than you can achieve individually.

BOOK REVIEW
Kids and the TI 99/4A

by Edward H.Carlson

Department of Physics and Astronomy,
Michigan State University.

Illustrated by Paul D.Trap

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Book supplied by Prentice-Hall of Australia Pty Ltd, Recommended Retail Price $31.50.

REVIEWED by WAYNE M.WORLADGE.

The TI 99/4A must surely be one of the most written-about computers ever. The books about it never seem to stop coming. It never fails to amaze me how much literature has been published about the 4A. A lot what I have seen is barely worth the paper, low-quality paper at that, that they are printed on. One could have been excused for thinking there were few topics left to be explored, but as soon as one makes a definitive statement like that, someone is bound to prove one wrong, and it's happened in this case.

Naturally, we were a little flattered when asked to review the book by Prentice-Hall Australia, but were also somewhat concerned that we may have been placed in the unhappy position of having to be less than complimentary. Fortunately for us, that is not the case.

The subject chosen for the book is how to learn to program in BASIC. It is aimed at children from 10 to 14 years of age, but in fact, is perfectly suitable for any beginner over 10. One presumes that children under 10 years may not have sufficient grasp of the needed concepts, and certainly, the language used is not simple; however, the subject does not lend itself to three letter words.

A considerable amount of thought has gone into the publication by all parties. The Author addresses himself to the student, the parent and the teacher, in separate Introductions. The illustrations are excellent, and the topics chosen as examples are concerned with subjects and language with which children would be familiar. Finally, the design of the book itself is intersting, in that it is spiral-bound, thereby facilitating having it open, and staying open.

The book is a series of 33 lessons, designed, as the Author says, for self-study. Each lesson starts with "Instructor Notes", which explain to the Instructor what is going to be taught, and provide him/her with exercises for the student after completing the lesson.

Then comes the lesson itself. Lessons are designed for "hands-on" experience with the computer. Even the earliest lessons involve using the keyboard, and seeing the words appear on the screen - I should say, a response appears on the screen, as the Author has deliberately chosen "wrong inputs" to describe the concepts needed. Very early on, he shows how the computer has a limited vocabulary - it only understands about 80 words.

Each lesson has a program of sorts; obviously very simple at the start, but they develop as the lessons proceed. At the end of each lesson is an assignment for the student to undertake. Solutions to the assignments are provided at the end of the book.

At the end of the book, also, is an excellent glossary, an index of commands and functions used, and a list of error messages. Finally, a comprehensive inex is provided.

I expect the best way to summarize this book is to say that I wish it had been around when I learnt BASIC (way back in the early '70's, on an IBM). Really, the book should be provided with every computer sold. It takes one in graduated steps right through BASIC, and additionally frequently provides the student and Instructor with cross-references to related topics.

The recommended retail price is A$31.50. Sure, it's not cheap, but I maintain that apart from the computer, it's the best value for money you are likely to find associated with the 99/4A.

I can recommend it for any beginner, and the "experienced" programmer can get a fair bit out of it, too. It is so structured that the Instructor needs to know as little as the student, so, parents, if you want your children to learn BASIC programming, or if you wish to learn yourself, this book is all you need.

In a word...EXCELLENT.

[It should be added that the Publisher makes it clear that TI were in no way associated with the writing of the book, nor were the facts reviewed by TI for accuracy. Indeed, the disclaimer is also made that use of the term "TI" does not mean that the book has TI's endorsement. I guess all that sort of stuff has to be stated, but I don't think TI would be unhappy with this publication.]

User Group Personalities

SHANE ANDERSEN

When we asked Shane for permission to write this article, and justified our choice of him as our first "personality" by the statement that he was the "Grandfather" of the Australian TI 99/4 User Groups, he was a little shocked: "Grandfather" is not an epithet Shane would use to describe himself.

Perhaps the word could have been better chosen: "Patron",or "Founder" may have been more appropriate. Words notwithstanding, no series of articles on User Group personalities could possibly be commenced without mention of Shane - he was the one who "got it all together."

Just over 3 years ago, Shane purchased his new TI-99/4 computer. He was then working as a Theatre Technician at St.Vincent's Private Hospital in Sydney.

It soon became abundantly clear to Shane that there was no support for this machine in the area of computer clubs around Australia. So he decided to do something about it, and set to work, by writing letters to both overseas and local Computer magazines, informing them that he wanted to start up a group for users of the TI HOME COMPUTER.

The first reply come through from John Volk, a Southern Baptist minister in Arkansas, U.S.A. who had read Shane's letter in an American magazine. They exchanged some programs, which was to be the start of a Software Library. Shane thought that people would be hesitant to join a group that was in its infancy, so he created a bluff, and produced a little newsletter which pretended that Australia's first TI group was well underway. He started to get replies from around Sydney, and, indeed, all over Australia.

Interstate people who responded to the advertisements were encouraged to start Groups in their own States with his assistance. The local enquirers were given a Newsletter, and a small list of free software available. No mention was made about meetings for at least 3 or 4 months, until he felt that he had gathered together enough interested people. Then when the first meeting was held at his flat, around 20 people showed up with their children, and a

We asked him what he thought the future holds for TI USERS in Australia...

"Firstly, I think that we are in good hands, now that IMAGIC have taken over the distribution of TI Hardware and software." He went on to say..."I have always thought that Texas Instruments were not Marketers, but Manufacturers. They make great products, but..."

"Any particular brand of computer has a marketing life of no more than two years with technology changing as fast as it is. It is up to the individual who buys a computer, to gather together all of the nessesary software, and expertise, to ensure that the his or her purchase will continue to cater for their needs in the future. Just like hoarding, and yet learning about their computer. What makes it tick, and how to write software, plus, most importantly, support and get involved with your User Group."

"I am continuing to stay with what I believe to be the most user friendly computer on the market today - my TI. But I'm also looking forward to the 99/64, and hopeing that IMAGIC will become the Australian Dealer for that bigger brother."

****

Thank you, Shane. What else could be said- except, perhaps, "AND SO SAY ALL OF US!".

challenge was put to them to form a committee. This happened, and Shane became the founding Co-ordinator of what was to become TISHUG.

Well, that was a long time ago,(in Home Computer time-scales), and since then, Shane has seen Groups formed all around Australia, and the Sydney Group grow to its present size, with around 1000 members.

Shortly after the first year of operation, Shane and another member (Lindsay Preece), volunteered to give demonstrations of the TI at two computer outlets, Shane at Canberra TV and Lindsay at Computer Wave. The reason for this was that no one seemed to know anything about the computer, so they were determined to show off its features, and advertise the Group at the same time. Lindsay had to move to Perth a little while after, so Shane took over his P.R. work. On the first Saturday demo at Computer Wave, crowds had gathered around, and sales for the TI increased, so Bernhard Kirschner (the owner), asked Shane if he would like a full-time job. Shane decided to accept the invitation so that fellow TI users would have a place to go that knew the machine.

He stepped down as Co-Ordinator of the Group, staying on as Editor of the NEWSDIGEST, so that new members wouldn't think that he had created the group for the personal gain of Computer Wave.

Shane was instrumental in creating Australia's first PROGRAMMERS CRISIS LINE, YOUNGER-SET(Under 18's group), SIX MONTHLY TUTORIAL/WORK SHOPS, and now the TI.S.H.U.G. Electronic Bulletin Board.

The TI Sydney Homecomputer User Group now has close on 1,000 members with Guest members throughout America, England, Europe, Asia and New Zealand.

Shane has accepted invitations to speak at the Sydney APPLE User group, and give motivation talks at both the COMMODORE and ATARI User Groups in that city.

With the demise of the Home Computer Division of Texas Instruments in November last year, pressures were placed on Shane that almost saw him give up all he had worked for, but since he had made so many new friends through this, and other TI User groups, he was determined to continue on.

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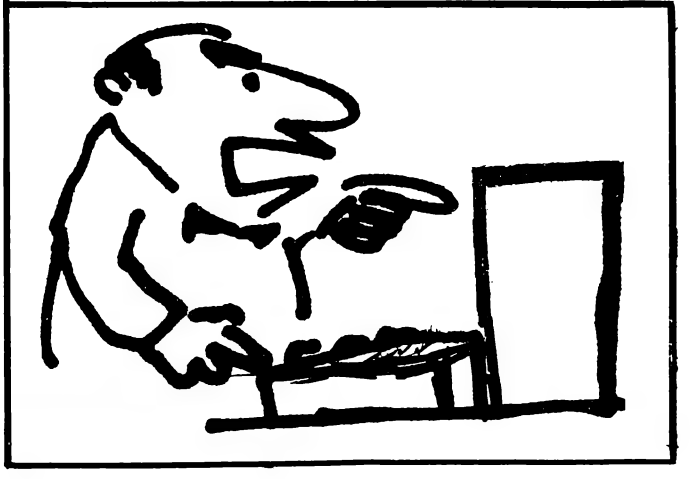


Challenger

by Wayne Southwick, Melbourne, Victoria.

Before writing "Challenger", I had to think of a game that met the specific needs of its owner. In this game, you have to defend your ship from attacking "Yahwen". If you can reach 100 points without being hit by a "Yahwen", you will automatically face another evil enemy, the dreaded "Thesitotes". The "Thesitotes" will try to hypnotise your ship into slowing down and crashing, but if you try not to look at them you may survive. At 200 points, you will be attacked by the multicoloured "Bumites", who will sway at your ship, and attempt to crash into you. (I find it difficult to pass the "Thesitotes", let alone the "Bumites".)

If you have the Speech Synthesiser attached to your computer, you will have an added dimension to this game, but if not, don't worry, the game will still execute.

To move the spaceship down, press the "X" key. This is all that you need to do, as the ship moves up automatically. Should you get too near the ground, gravitational effects may cause you to crash!

Your Ship is equipped with a protective shield, but its computer is malfunctioning, and it is turning off and on. Should it be "off" when an enemy strikes you, you ship is destroyed, and the game ends. You only have one Ship.

HAVE FUN!

```
100 REM ****************
110 REM *  CHALLENGER  *
120 REM *   BY WAYNE   *
130 REM *  SOUTHWICK.  *
140 REM *FOR SOFTEX P/L*
150 REM ****************
160 ON BREAK NEXT
170 CALL CHAR(128,"191A1C181
8385898")
180 FOR D=0 TO 10 :: CALL CO
LOR(D,16,1):: NEXT D
190 CALL COLOR(12,9,1)
200 CALL CLEAR :: CALL SCREE
N(2):: DISPLAY AT(10,10):"CH
ALLENGER":"       BY W.SOUTH
WICK"
210 PRINT "    PRESS X TO MO
VE YOUR          SPACE-SHIP
DOWN"
220 CALL PEEK(-28672,SP)
230 IF SP=0 THEN 241
240 CALL SAY("I THINK YOU WI
LL LIKE THIS SPACE TYPE PROG
RAM"):: GOTO 250
241 FOR D=1 TO 500 :: NEXT D
250 CALL CHAR(120,"FF7F3F3F7
F3F1E04")
260 CALL CHAR(121,"40E1F3F7F
3F3F7FF")
270 CALL CLEAR :: CALL SCREE
N(2)
280 DISPLAY AT(10,8):"PLEASE
 ENTER YOUR NAME: "
290 ACCEPT AT(13,8)SIZE(7)VA
LIDATE(UALPHA)BEEP:A$
300 CALL CLEAR
310 CALL CHAR(136,RPT$("F",1
6)):: CALL COLOR(14,9,1)
320 CALL HCHAR(2,1,136,32)
330 CALL HCHAR(24,1,136,32)
340 CALL HCHAR(3,1,120,32)
350 CALL HCHAR(23,1,121,32)
360 CALL CHAR(43,"DBE7281818
28E7DB")
370 CALL CHAR(111,"0F1E3EFAF
A3E1E0F")
380 CALL SPRITE(#1,111,16,90
,150)
390 FOR F=2 TO 5
400 CALL SPRITE(#F,43,3,(RND
*240),(RND*280),0,70)
410 NEXT F
420 CALL CHAR(45,"00183C7EFF
7E7E5A")
430 CALL SPRITE(#6,45,8,80,1
50,0,90)
440 CALL SPRITE(#7,45,8,142,
80,0,50)
450 CALL SPRITE(#8,45,8,60,1
,0,20)
460 CALL CHAR(61,"0F1E3EFAFA
3E1E0F")
470 LET CHEN=CHEN+1 :: IF CH
EN=200 THEN 770 :: IF CHEN>1
00 THEN 720
480 CALL COINC(#1,3,150,26,G
):: IF G=-1 THEN 570
490 CALL COINC(ALL,Q):: IF Q
=-1 THEN 570
500 CALL COINC(#1,162,150,10
,P):: IF P=-1 THEN 570
510 LET TIME=TIME+1 :: DISPL
AY AT(1,1):A$&", YOUR TIME I
S: "&STR$(TIME)
520 CALL KEY(1,K,S)
530 IF S=0 THEN Y=-15
540 IF K=0 THEN Y=15
550 CALL MOTION(#1,Y,X)
560 GOTO 470
570 CALL POSITION(#1,R1,C1)
580 CALL DELSPRITE(ALL):: CA
LL SOUND(680,880,0,-5,0):: C
ALL SCREEN(2)
590 CALL COLOR(10,11,1)
600 CALL HCHAR(5,2,111,31)
610 CALL VCHAR(5,2,111,18)
620 CALL VCHAR(5,32,111,18)
630 CALL HCHAR(18,2,111,31)
640 DISPLAY AT(12,8):"G A M
E  O V E R" :: DISPLAY AT(16
,8):A$&"'S TIME IS "&STR $(T
IME)
650 DISPLAY AT(1,1):RPT$(" "
,28):: DISPLAY AT(20,4):" WA
NT TO PLAY AGAIN Y OR N.Y"
660 CALL PEEK(-28672,SP)
670 IF SP=0 THEN 690
680 CALL SAY("WANT+TO+PLAY+A
GAIN.PRESS+ENTER+FOR+YES+OR+
N+THEN+ENTER+FOR+NO")
690 ACCEPT AT(21,28)SIZE(-1)
BEEP VALIDATE("YN"):G$ :: IF
G$="Y" THEN 870
700 FOR D=1 TO 800 :: NEXT D
710 CALL CLEAR :: END
720 CALL CHAR(43,"183C7EFFFF
7E3C18")
730 CALL COINC(ALL,Q):: IF Q
=-1 THEN 570
740 CALL CHAR(43,"E7C3810000
81C3E7")
750 CALL COINC(ALL,Q):: IF Q
=-1 THEN 570
760 GOTO 480
770 CALL DELSPRITE(ALL)
780 CALL SPRITE(#1,61,16,90,
150)
790 CALL SPRITE(#7,128,8,150
,90,0,40)
800 CALL SPRITE(#9,128,4,32,
8,0,20)
810 CALL SPRITE(#11,128,6,48
,24,0,40)
820 CALL SPRITE(#13,128,8,64
,40,0,60)
830 CALL SPRITE(#15,128,10,8
0,56,0,80)
840 CALL SPRITE(#17,128,12,9
6,72,0,20)
850 CALL SPRITE(#19,128,14,1
12,88,0,40)
860 GOTO 480
870 CALL CLEAR :: RUN 280
```

ASTROLOGY BY COMPUTER

By Helen Rawlinson.

WHAT IS ASTROLOGY?

Astrology is a science which studies how the position of the planets in our solar system influence life on Earth. It is a science which has been studied for many centuries and dates back to ancient Babylonian times thousands of years B.C.

WHAT DO YOU DO WITH IT?

Astrology is not a method by which you can tell the future. It will enable you to perform some analysis of an entity's (a person, a country, a company, etc.) character and tell you what influences are around that entity at any given time therefore perhaps giving guidence as to which road to take when a decision is required.

HOW DOES IT WORK?

The first thing that needs to be done is to draw up a Natal Chart for the entity you are concerned with, that is, draw up a map of the solar system which represents the position of the planets at the time of a person's birth, a company's registration or a country's creation. For the purposes of this article the subject will be assumed to be a person but exactly the same principles apply to any entity.

A natal chart will enable the analysis of a person's character, how to go about interpreting this information will be described later. To assess the influences around a person at a given time another chart has to be drawn up giving the positions of the planets at the time you wish to study. Hence, if I wanted to know whether or not to do something on December 15 1984 I would draw up my natal chart and draw up a chart of the planetry positions on 15.12.1984 and compare the information on both charts.

WHAT YOU NEED TO KNOW.

To draw up a natal chart you need to know a number of details about your birth. Firstly you need to know the latitude and longitude of where you were born, you also need to know the time difference between where you were born and the time at Greenwich (England), for instance, the eastern states of Australia are 10 hours ahead of Greenwich (9 hours during daylight saving) and you need to know the local time at which you were born. Many people don't know what time they were born and the parents/family can't remember - one handy tip is that if your mother or whoever can't remember when you were born ask them if they can remember if they'd just had breakfast or about to have dinner or something like that at the time of dashing off to give birth and then how long they were in labour, this often jogs the memory a bit. If you can't find out then assume you were born at 12 Midday.

HOW TO DRAW UP A NATAL CHART.

Producing a natal chart requires an Ephemeris for the year you are concerned with. An Ephemeris contains details of the planet's positions on each day of the year and, for the slower moving planets this is sufficient, however for the faster moving planets such as the moon further calculations are required. As will be explained later you also need to calculate your 'rising sign' which is a very important influence on a persons personality. Because these calculations are far too complicated to explain in a short article I suggest you acquire a computer program which does the calculations and plots and prints the chart for you such as the disk-based ASTROLOGY HOROSCOPE software produced by Navarone Industries. By using this program a complete natal chart will be printed for you after you have entered the required information as outlined above, thus saving you from having to buy an Ephemeris and performing all the calculations yourself.

HOW TO READ A NATAL CHART.

Imagine that, at the time you were born you were actually in the centre of the earth. If you've been able to imagine that then you should also be able to imagine a big circle drawn around the earth up in the heavens, now imagine that circle of 360 degrees segmented roughly into 12 equals sections of around 30 degrees each (like cutting up a cake into 12 equal wedges), these 12 segments (wedges) are called the 12 'houses'. Now, if you're still with me, imagine that as you look around your circle that each of the 12 signs of the zodiac can be seen one after the other around the 360 degrees and that each of them, again, covers 30 degrees of the circumference of the circle. Also note that as you look around the circle you occasionly spot a planet, hopefully seeing 9 in total. This cutting up of the cake in two ways and the positioning of the planets in relation to the houses and the zodiac signs is what is represented in a natal chart. Now look to the due east, the zodiac sign that you can see there is what is called your 'rising sign', that is, the sign that is rising over the eastern horizon at the time you were born. It is by knowing your rising sign and where in its 30 degrees the eastern horizon is positioned that you know where everything else for the natal chart is to be plotted.

Now look at Doug Thomas' natal chart as printed on the outside back cover of the May issue of SOFTEX. Contrary to normal usage south is at

the top of the circle, north at the bottom, east to the left and west to the right. Because the Earth is constantly rotating so the sign seen at the eastern horizon is constantly changing, moving through the entire 12 signs in one day, with the movement of the signs appearing to come clockwise over the eastern horizon. So at the the left end of the line going from E to W we see that Doug's rising sign was CP or Capricorn - see explaination of abbreviations in the bottom half of the chart, and that the eastern horizon cut Capricorn at 13 degrees 12 minutes. Note the lines of asterisks which divide the circle up into 12 segments, these are the lines which show the boundaries of the 12 houses with each house number printed near the centre of the circle. These dividing lines are called the 'house cusps'. If you look at the line which divides house 1 from house 2 you will see it labelled as 11AQ52, this means that the cusp intersectes at 11 degrees 52 minutes into Aquarius. Hopefully you will now be able to identify where each of the other 10 dividing lines intersect the circle in terms of the zodiac sign and the number of degrees into that sign.

The dividing lines, or 'cusps', between each zodiac sign do not get marked on a natal chart because it would become a bit too cluttered, but the position of the house cusp gives a basis to work from, and the actual position of a planet, as worked out from an Ephemeris or by the computer is plotted in relation to the house cusps. For instance, the cusp of the third house falls exactly 13 degrees into Pisces, investigation shows us that Venus was, at the time of Doug's birth, 11 degrees 43 minutes into Pisces (displayed as VE 11PI43) and therefore we know to plot it just to the left of the cusp into the 2nd house. Now you can have a look at the rest of the planets and read their position. Starting from the eastern horizon and working anticlockwise we can see that the 2nd planet after Venus is (consult abbreviations list) Mercury which is in the 3rd house and was 14 degrees 44 minutes into Aries. Similarly the Sun was in the 3rd house, 5 degrees 50 minutes into Aries.

INTERPRETING THE CHART.

So now you're sitting there saying 'OK, I can sort of read the chart now but what the heck does it all mean?' Well I'm not going to tell you because details of what each planetry position means is enough to fill a book so I suggest you go and buy a book. But I will give you some general details on the meaning of various things.

Firstly, when a person says that they are, say, a Sagittarian what they are really saying is that the Sun was in Sagittarius when they were born, similarly an Aries had the Sun in Aries when they were born and so on. It would be more astrologically correct to say, rather than I am an Aries, that Aries is my Sun-sign. The Sun-sign is one of the 3 most important features to be observed on a natal chart along with the Moon-sign and the Rising Sign. Each of the zodiac signs, each of the houses and each of the planets have different characteristics and therefore each combination of each planet when looked at in terms of which house and sign it is in is what enables us to interpret the meaning of a natal chart in relation to determining the person's personality. The influences attributed to the zodiac sign which is a person's Rising Sign are said to be shown as the more superficial nature of that person's nature, that is the type of person that mere acquaintances are likely to see. The influences of the Sun Sign are said to be seen by people that the person knows pretty well while the Moon (which is the planet which influences our emotional characteristics) Sign gives an indication of the deepest, darkest part of a person's personality which only extremely close friends would be likely to see.

It may be more easily understood how all this can be used to build up a picture of a person's personality if we understand that each of the planets, zodiac signs and houses have their own attributes which influence us. For instance, as as previously mentioned, the Moon influences the emotions, similarly Jupiter influences our way of thinking, Venus is the planet of love and will influence our likes and dislikes, the houses relate to specific areas of the person's life such as career, possessions, partnerships etc., and the zodiac signs influence our personality characteristics.

Hopefully this article will have inspired you to delve into the mysterious world of Astrology which is as fascinating as it is complex. The last thing for me to do is to give a couple of pointers on using the Navarone Industries' program, the requirements for which will not be obvious from the aforegoing.

As is quite a usual event, the Navarone program was developed in America and they haven't taken account of the different needs of people in other places. This necessitates we who were born east of Greenwich, and therefore ahead of Grenwich in time, to alter our date of birth to the day before we were actually born. In addition, for 'Time Zone' enter the figure which equals 24 minus the number of hours the subjects birthplace is ahead of Greenwich. For instance, I was born at 3.50 A.M. on the 6th. of October 1952 in Melbourne (which is 10 hours ahead of Greenwich Mean Time) so I need to enter my birthdate as 5th. Oct. and a Time Zone of 14, still entering the time of 3.50 A.M. If the latitude of your place of birth is south of the Equator then enter a minus sign instead of the +, do the same if the longtitude is east of Greenwich. Always enter 10 for Delta T.

Referances: "The Compleat Astrologer" by Derek and Julia Parker.

"The Complete Home Astrologer" by Qwyn Turner.

Sort Routine

By B. Rutherford, Dudley, N.S.W.

For people new to computing, arrays are not always understood very well. If they do understand them, they do not know how a bubble sort works. Most do not know how to use an index within a sort routine, to facilitate the keeping of two or more lots of linked data together. eg. names and addresses / names and scores; without swapping both or more items of linked data at the same time.

The following programme is a small bubble sort with an index added.

Line 70 loads the index array with the number J as it reads the data for that value of J.

It works like this.....

When the data is first read the arrays look like this.

NAME$(1)=Smith B.
NAME$(2)=Jones C.
NAME$(3)=Black J.
NAME$(4)=McInnes A.
NAME$(5)=Ellsworth C.

SCORE(1)=25
SCORE(2)=40
SCORE(3)=60
SCORE(4)=10
SCORE(5)=5

INDEX(1)=1
INDEX(2)=2
INDEX(3)=3
INDEX(4)=4
INDEX(5)=5

The programme then compares the items to be sorted at line 130 by INDEX array subscript ie. NAME$(INDEX(J)). Then swapping the values in the INDEX array (if need be) in lines 140-160. So the INDEX array looks like this.

INDEX(1)=3
INDEX(2)=5
INDEX(3)=2
INDEX(4)=4
INDEX(5)=1

As you can see the INDEX acts like a pointer, pointing to the right item. If you put it all together it looks like this.

```
10 REM INDEXSORT BY B. RUTHE
RFORD
20 CALL CLEAR
30 OPTION BASE 1
40 DIM NAME$(25),SCORE(25),I
NDEX(25)
50 INPUT "HOW MANY NAMES ":N
60 FOR J=1 TO N
70 INDEX(J)=J
80 READ NAME$(J),SCORE(J)
90 NEXT J
100 LIM=N-1
110 SW=0
120 FOR J=1 TO LIM
130 IF NAME$(INDEX(J))<=NAME
$(INDEX(J+1))THEN 190
140 X=INDEX(J+1)
150 INDEX(J+1)=INDEX(J)
160 INDEX(J)=X
170 SW=1
180 LIM=J
190 NEXT J
200 IF SW=1 THEN 110
210 CALL CLEAR
220 FOR J=1 TO N
230 PRINT NAME$(INDEX(J)),SC
ORE(INDEX(J))
240 NEXT J
250 DATA "Smith B.",25
260 DATA "Jones C.",40
270 DATA "Black J.",60
280 DATA "McInnes A.",10
290 DATA "Ellesworth C.",5
300 END
```

ARRAY NUMBER	NAME	SCORE	INDEX VALUE
1	Smith B.	25	3
2	Jones C.	40	5
3	Black J.	60	2
4	McInnes A.	10	4
5	Ellsworth C.	5	1

This shows that NAME$(INDEX(1)) is NAME$(3), which equals Black J. and SCORE(INDEX(1)) is SCORE(3) Black's score. This is completed without swapping NAME$ and SCORE over and we have kept them together by swapping the index.

Using an index like this will be especially handy when you have three or more lots of data linked together.

User Group Tips/News

FROM MELBOURNE TIMES, JUNE 1984 No. #20.

Over the years that User Groups for the TI-99/4A have been operating, many useful articles and tips have been published.

We shall, in future issues, publish what we feel are the best of these. There is no copyright applying to these articles or tips - indeed, as User Groups tend to republish other User Group's information, the sources, in some instances, are unknown.

In this issue, we have reprinted an article by the mysterious "Rastis" which shall appear in the June edition of Melbourne TIMES.

The TI 99/4A uses single density disks. Single and double density refer to the frequency (or rate) of writing to the disk. In the same period of time a double density write causes twice as much information to be placed on the disk as would a single density write. The information is saved in a more compact form.

Double sided simply means that both sides of the disk are used. As it is well known another notch can be cut from a single sided disk to allow it to be used as a double sided disk (providing you have a double sided disk drive) or as two single sided disks on the TI expansion box drive.

Quad density usually refers to a double sided double density disk. Some manufacturers use quad density to mean exactly as the name emplies without regard to single/double sided use.

TI make fairly poor use of disk space. Only 90kB are avilable which compares badly with APPLE's 140kB. (Even allowing a loss of some 11kB for DOS it's still a bad comparison for the same sized disks.)

A BRAND new disk has no information stored on it. Initialization causes 360 (or 720 for double sided disks) sectors to be arranged. A sector is a radial portion of the disk which could be compared to a 2 dimensional orange segment viewed from above.

The TI 99/4A uses soft sectored disks. Basically this means that the disk has only one index hole. Hard sectored disks have many reference holes with one offset as a master reference. A light inside the disk drive is used to establish timing for read/write operations. When the light can be seen from the opposite side of the disk to the actual light source then the index hole's position is known. All sector positions are calculated from this reference point and the fact that the disk spins at a very accurate constant speed.

REFRESHER: The expansion disk drive for the TI 99/4A uses single sided, single density soft sectored disks. Disk Manager 2 is capable of running double sided disks if you own a double sided disk drive. To convert a single sided disk to a double sided disk simply take 2 disks and lie then face to face with the read/write slots aligned and cut a notch on one disk in line with the notch on the other.

PROTECTION RACKET

A number of levels of protection are available for inforation stored on disk, none of which is much use in stopping illicit copying.

Level 1: The PROTECT option on DM 2 module prevents accidental erasure (by DELETE command) or alteration to the program. The program can be listed, run or copied at will.

Level 2: The PROTECTED option on the XBASIC module. (eg. SAVE DSK1.ALPHA,PROTECTED). This level of protection allows the program to be run or copied using only DM 2 copy options. XBASIC will not list or save if this level is envoked. The program can be erased but not changed. Unfortunately it is a simple matter to break this protection.

Level 3: Proprietory protect. (The rest of this article combines facts with some intelligent(?) guessing). This allows a disk being initialized to have a code inserted to prevent copying by any of DM 2's file copying options. You can use this level on your own disks. Select any option screen on the DM 2 module then press FCTN X ten times (X=10 in Roman numerals?). The symbols >< will appear at

the top of the screen. Now initialize the disk and you have your own proprietory protection. The value of this level of protection seems to be that you can give a copy of your programs away and allow listing but make copying more difficult. I believe that a seperate code is given to each Proprietory company to identify their own disks. DM 2 uses 28 hex. as it's identifying code.

Using all 3 protection levels a program can be run but not listed, copied, deleted or altered easily. A useful first line for all programs requiring maximum protection is:

```
10 CALL INIT::CALL LOAD(-31806,16)
::ON BREAK NEXT::UNTRACE
```

This prevents use of the QUIT and CLEAR keys and automatically cancel's any attempt at TRACING.

DISK FORMATTING

One side = 90 kB = 360 sectors
thus 1 sector = 1/4 kB = 256 Bytes.

After initialization the DM 2 screen reads 358 (or 718) sectors available 0 sectors used. The "missing" two sectors are used as follows. Sector 0 contains the name of the disk and a reference to the required Device Service Routine, proprietory protect code (if any) and the number of sectors on the disk. (360 or 720 for single sided and double sided respectively).

Sector 1 contains in sorted order the sector address of the program/file names. Running the catalog on DM 2 uses this sector to speed printing of the catalog. If your disk already had four programs (B, C, D and E) saved and you wished to save another program called A then the program is saved and sector 1 is re-written to reflect the correct alphabetical order of the programs saved on the disk. If the program was saved using the name F then the process would occur faster as no rearrangment of sector 1 is necessary.

The first program (on a newly initialized disk) has stored at sector 2 the program's name, the type of file or program the size of the file (encoded), the number of the first sector that the program/file occupies (in this case it is sector 34) and whether the file was protected using the DM 2 protection option. The first program/file is always saved at sector 34 and subsequent consecutive sectors as required

SECTOR 0 DISK NAME/SIZE
SECTOR 1 SORTED LIST OF FILE NAMES
SECTORS 2-33 FILE NAMES AND LOCATIONS
SECTORS 34+ PROGRAM/FILE

If the disk is filled to sector 359 (or 719 for double sided) then files may be saved in any empty sectors in the range 2-33.

If a file is DELETED only its catalogue reference in sector 1 and the sector (between 2 and 33 inclusive) containing the file name and position etc. are deleted. The actual file still resides on the disk. This is why the DELETE PROTECT is on the file name sector and not as part of the file itself.

If a disk is filled without any deletions this pattern is followed. Once a deletion has occured a 'hole' is created on the disk. Naturally some programs will be saved either wholly or partly in these holes. The file name sector contains the information on this splitting. The sector address and length of each segment of the file is also stored here.

In order to make copying a little more difficult you could fill a proprietory protected disk with many small programs and the randomly delete enough of the small programs to store your required program. The program will be fractured and saved in many small non-consecutive locations. This makes it more difficult to perform a direct disk or sector copy.

PARTING NOTE: As another protect mechanism, a method could be developed to encode the entire program and save it as a data file. In order to run a decode program would be necessary.

Submission by: Rastis.

SOLUTION TO THE TI-WRITER FORM FEED PROBLEM.

(A Typical Computer Story)

TI-Writer has been discussed a-plenty in this issue, and one of its few irritating features has now been resolved.

When you are ready to print out hard copy from the FORMATTER, the printer automatically form feeds one sheet of paper before starting to print. This is a terrible waste of paper, or at least, an inconvenience. Various ways have been developed to get around the problem, but none of them have been terribly satisfactory.

Now, however, we have not one, not two, but three solutions to the problem - one from Perth, one from Melbourne, and one from the most unlikely source imaginable!

The Perth solution was published in the Perth User's Group Newsletter of July this year. The solution has been around for a while, but Bernie Elsner and his confreres wouldn't let the secret out until the publication of the newsletter.

In Melbourne, it fell to Wayne Southwick to develop his system, which he only perfected in the last week of July.

Perth's solution involves saving your text to the formatter, and therby having it on disk with all the linefeed characters added. You then load this file back into TEXT EDITOR, remove all the unwanted characters, and print out using PRINTFile. The instructions are given in this article. Don't be frightened by its apparent complexity - it is quite simple, really. However, TransLiterate commands won't work, nor will DefinePrompts.

Wayne Southwick's version is more elegant. He has somehow accessed the FORMATTER program, has changed the program, and then saved it back to disk. For all intents and purposes, it is the same FORMATTER as before, works in the same manner, but does not form feed before printing.

At the time of going to press, however, it had been discovered that the revised FORMATTER only prints 60 lines to a page. Wayne thinks he can get around that one.

The third solution came in the form of a present from, of all people, TI Lubbock. A disk of revised programs has been sent to all User Groups, for distribution to Members.

The disk contains programs which give true lower-case and a slashed zero on TEXT EDITOR, and elimination of form feed and a default printer devicename on FORMATTER. (A choice of "RS232.BA=1200" or "RS232.BA=4800" - what about "PIO.LF"??? Perhaps Bernie and Wayne could lend their genius to resolving that peoblem.)

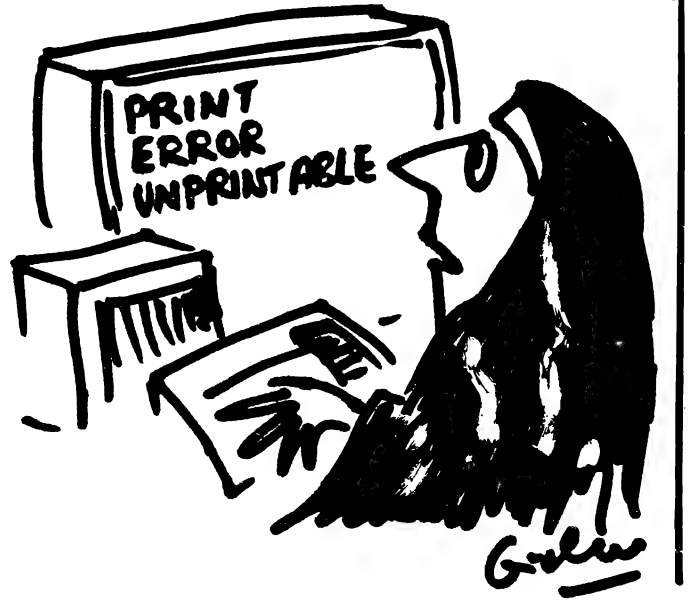
As well, MULTIPLAN has been upgraded by increased speed of execution and auto-repeat for the cursor.

These programs should be available from your User Group soon. Melbourne User Group are providing the TI-Writer and Multiplan programs on one disk for $5.00 posted to members, or $7.00 posted to non-members. (TI also sent the source code for FORTH. It is on two disks. Again enquire of your User Group. If you want it from Melbourne, send $12.00.)

What does all this prove? I expect it shows what a crazy industry Home Computing has become!

Instructions:

1. Prepare your text file as normal, save as normal, exit TEXT EDITOR and enter TEXT FORMATTER
2. Let's imagine the file is called DSK1.YOURFILE. In answer to the FILENAME prompt, enter DSK1.YOURFILE as normal.
3. Then you are prompted with "ENTER PRINT DEVICENAME". To this, type DSK1.YOURFILEF. (The "F" on the end is for "formatted".)
4. Press <ENTER> for the remaining prompts, and your file has now been save in the formatted form.
5. Re-enter TEXT EDITOR, and load the formatted file. It will appear on the screen with all the characters that the formatter adds. It will also be in the layout you specified, and you can check it is satisfactory.
6. Lines 1,2 and 3 are the nuisances. Delete them. (CTRL 3)
7. Enter fixed mode. (CTRL O)
8. Select ReplaceString (RS), and type: / CTRL U SHIFT J CTRL U / CTRL U SHIFT M CTRL U / ENTER
9. Press CTRL 0 to exit fixed mode, and then do any other editing needed.
10. To print the file, press PF and away you go!



TI-99/4 USERS GROUP MELBOURNE TAPES

Since the last issue of Softex Magazine Tape 21 has been released.

This and copies of earlier tapes are availiable to Non Melbourne User Group Members for $8.00 ea., including Postage.

The following Disks are also available:-

TI-WRITER and Multiplan Update.

TI, Lubbock have sent updates for the above programs. TI-WRITER now has True lower case display in the Editor, and the 'Page Waster' in the Formatter has been eliminated. A defualt printer device name is also added. With Multiplan, the programs have been revised to speed up execution and give an auto repeat function to the cursor. Both on 1 Disk.....$7.00 Posted.

Advanced Assembly Language Debugger.

Supplied on 1 Disk.....$10.00 Posted.

TI Forth.

Supplied with 200+ page manual, and 1 Disk.....$30.00 Posted.

TI Forth Source Code.

Supplied on 2 Disks.....$12.00 Posted.

Please send your requests and cheques made payable to:
TI-99/4 Users Group Melbourne, 123 Ashburn Grove, Ashburton. 3147.

WANTED

* **GOOD PROGRAMS** - Games, business and utility programs.
* **USEFUL** Programming Tips
* **ARTICLES** on uses of the computer , feature or tutorials on programming or uses.
* **SUGGESTION** for future articles.

Send material on Disk/Tape if possible (will be returned) along with any explanatory notes. Prefer formatted on TI-WRITER but if use some other Word Processor send copy in order to read program.
A fee will be paid for material used.

Send to: SOFTEX P/L.,
59 Landstrom Quadrant,
Kilsyth. 3137.

TI-99/4 USERS GROUP MELBOURNE TAPE 21

Find Speech: Ext.
Modify and join words, make use of vocabulary in Ext. Basic. Requires Speech Synthesizer.

Bugs in the Gallery: Ext.
Great Graphics Display. Shows imagination in use of graphics and sprites.

Planet Movements: Ord.
Program showing movements of planets through solar system.

TIC-TAC-TOE: Ext.
Family favourite, very quick response.

Turbo-Racer: Ext.
Guide your car around the track without hitting another vechicle or running off the road, at night and in fog.

Air Traffic Controller: Ext.
You are left in charge, how many aircraft are you going to destroy. Use Data statements 0-300 for call signs.

Computer Music: Ext.
Design your own music using this program.

Ves Curve Match: Ext.
Uses Goosh's method for calculation of theoretical resistivity curves to match field data for Wenner Array electrode configuration.

Mini-Memory Disassembler: M.M.
99'ers version.

Numerical Integation # Gaussian Quadrature: Both.
Enter your function of F(x)=..... and run.

Profit: Both.
Simple profit/loss program.

Sprite Definition: Ext.
Auto Sprite definition.

Frogger: Ext.
Another version of this ever popular game. (Joystick only)

Meteor: Both.
Excellent Graphics game. Defend a city against a shower of meteors.

Defender: Ext.
Control your space ship and make sure you don't crash into a city building etc..(Joysticks required.)

Test Driver for Fast Fourier Transform Sub.: Both.

Poker: Ext.
A safe way to play the pokies.

Grand Prix: Ext.
Another version of car racing with great graphics (Joysticks)

Road Race: Ord.
3-D graphics version.

Around the Groups

Throughout Australia active groups of users have banded together to form part of an international link to spread tips, knowledge, programs and the latest news amongst each other. About 3 years ago Shane Anderson from Sydney began the task of trying to find other users of the TI-99/4. Gradually small groups began across Australia, until today there are in excess of 2000 members, without counting the spouses, children, relations and friends who also have some contact with the groups. If you are not a member of a group, then I strongly advise you to join one NOW as it will be up to the groups to find support and developments in the future with T.I. now out of the home computer market.

In Australia all groups have kept together and shared news amongst themselves, so it is not an advantage to belong to one group in preferance to another, although logically the nearest one to you should be the one you join. All groups have newsletters, program libraries, numerous overseas contacts etc.. However they each operate in different ways according to size, membership and assets. Following below are details, contacts, costs and services provided by the groups. It is our intention to publish meeting dates and news in further issues to keep you informed of the activities. In addition to the Capital City groups there are regional ones springing up across the country, eg. Newcastle, Mt. Gambier, who are affiliated with the larger groups.

Doug Thomas.

TI-99/4 Users Group Melbourne

Co-Ordinator: Doug Thomas.
Address: 59 Landstrom Quadrant, Kilsyth. 3137.
Telephone: (03) 7258178.
Membership Cost: $15.00 per 12 month period.
Tape Membership: $35.00 for 6 C-60 Tapes with 15 to 20 programs on each. Variety of programs on each, collected from local, interstate and overseas sources. Non members can join tape membership only for $40.00. Programs posted to all subscribers at 2 monthly intervals.
Meetings: Held bi-monthly Saturday afternoons at Victoria College, Burwood Rd., Burwood at 2.00 pm., with a meeting held alternate months on Thursday nights at 7.30 pm..
Next Meeting: Saturday 11.08.84. TI Forth and demonstration of "Name-it".
Dates for rest of 1984: Thurs. nights (7.30pm): 20.09.84, 22.11.84. Saturdays (2.00pm): 27.10.84. Coming Logo II Demo.
Newsletter: Posted bi-monthly, offering news, tips, programs and details of next meetings.
Fees sent to: TI-99/4 Users Group Melbourne, 123 Ashburn Grove, Ashburton. 3147.

T.I.C.H.U.G. (Canberra)

Co-Ordinator: Von Klimpel
Address: P.O. Box 610, Belconnen. A.C.T. 2617.
Telephone: (062) 588486
Membership Costs: $18.00 per year.
Meetings: Held bi-monthly.
Tape Software: $5.00 ea., with 8 to 10 programs on each.
Newsletter: CHUG.A.LUG, produced bi-monthly.
Fees sent to: TICHUG, P.O. Box 610, Belconnen. A.C.T. 2616.

T.I.U.P. (Perth)

Co-Ordinator: Les Twiss.
Address: P.O. Box 246, Mt. Lawley. 6050.
Telephone: (09) 2718642
Membership Costs: $15.00 pa. or $10.00 pa. Newsletter only.
Meetings: Held the third Saturday afternoon each month. Free copies of software is availiable at meetings, on supplying own C-90 tape.
Newsletter: Published bi-monthly giving program listings, tutorials, and in depth reviews.
Fees sent to: TIUP, P.O. Box 246, Mt. Lawley. 6050. W.A.
Very experienced group of programmers who are leading the way with Assembler and other languages.

A.T.I.C.C. (Adelaide)

Co-Ordinator: Fred Cugley.
Address: 26 Suffolk Ave., Brahma Lodge. 5109.
Telephone: (08) 2583499.
Membership Cost: $24.00 pa.
Meetings: Held ea. 6/8 weeks at a School, advised in Newsletter
Newsletter: Published bi-monthly and posted.
Program Tapes: Availiable at $6.00 ea. for 10 good programs. The Group is currently going through a transition stage, with the Co-Ordinator and Secretary looking to stand down from their positions.
Fees sent to: ATICC, 26 Suffolk Ave., Brahma Lodge. 5109. S.A.

T.I.S.H.U.G. (Sydney)

Co-Ordinator: Peter Varga.
Secretary: John Robinson, P.O. Box 149, Pennant Hills. 2120.
Telephone: (02) 8480956
Membership Cost: $10.00 initial joining fee, $20.00 per 12 month period.
Meetings: Held first Saturday each month (2nd. Sat. if 1st. a holiday weekend) at 2.00 pm. at St. Johns Church Hall, Victoria Street, Darlinghurst. Regional metings held between main meetings on various nights.
Newsletter: Posted monthly, giving news, tips, programs, and future meeting details.
Program Tapes: Sold $3.00 ea. at meetings, $4.00 ea. Posted. Each contain about 10 programs, and are set themes, eg. Extended Basic, Ext. Basic Music, Games, Ord. Basic, Ord. Music, Speech. No subscription service, ordered separately.
Fees sent to: TISHUG, P.O. Box 149, Pennant Hills. 2120.
Features: Program Crisis Line.
Bulletin Board for Modems, commenced 1.07.84. Phone No: (02) 5600926. To register as a user write to: TI.S.H.U.G.BBS, P.O. Box 595, Marrickville. 2204.
Monthly Software Competition with prizes up to $50.00.

TI Tas. Users Group (Hobart)

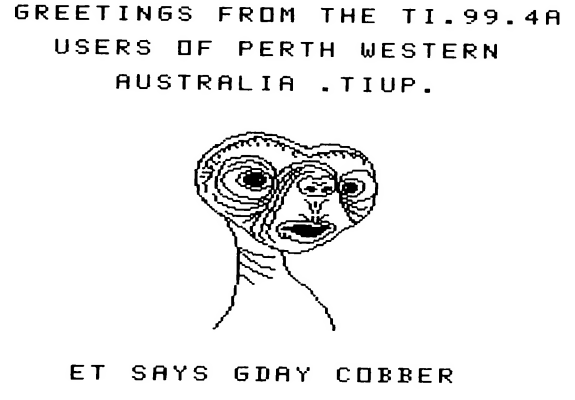
Co-Ordinator: Rex Shephard.
Address: 1 Benboyd Crt., Rokeby. 7019.
Telephone: (002) 294009.(Leon Lonergan)
Membership Cost: $15.00 per year.
Meetings: Meet every third Sunday of the month at the University of Tasmania from 2pm. to 4pm. in Room 373.
Tape Software: $5.50 a C-60 tape ($9.00 SS/SD Disk) of user written programs.
Newsletter: Bi-monthly.
Fees sent to: T.I. Tas Users Group, 7 Tarana Road, Blackman's Bay. 7152. Tasmania.

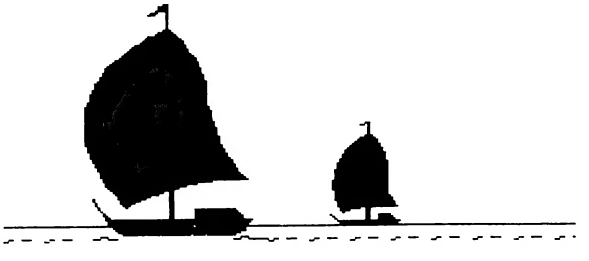
T.I.B.U.G. (Brisbane)

Co-Ordinator: Mr. Greg Lane.
Address: P.O. Box 57, Aspley. 4034.
Telephone: (07) 2634989
Membership Cost: $22.00 pa. reducing on a sliding scale from September.
Meetings: Held monthly, check for venue.
Newsletter: Bug-Bytes, published monthly and posted.
Features: Programmers Hot Line.
Operate several sub-groups in area.
Home Computer Magazines is sold at meetings along with other odds and ends.
Running an Assembly language workshop.
Fees sent to: TIBUG, P.O. Box 57, Aspley. 4034. QLD..

National TI-99/4 Users Group of Australia

Co-Ordinator: Doug Thomas, 59 Landstrom Quadrant, Kilsyth. 3137. Vic.
Functions as a co-ordinating role between the various groups throughout Australia. Does not actively organise functions or meetings except between Co-ordinators and other interest parties. Acts as a distribution point for Software and other Data received internationally.





Only the Texas Instruments Professional Computer offers these 7 advantages that add up to more computer for your money.

If you're a smart business professional, you want a business computer that gives you the most productivity power for your dollar. For you, Texas Instruments has the answer: the TI Professional Computer. With seven obvious advantages that make buying TI make sense.

The Disk Storage Advantage.

The TI Professional Computer gives you standard 320K floppy disk storage. That's twice the standard data storage of the leading competitor.

The Function Key Advantage.

We give you 12 function keys that you can easily preprogram to make your work simpler and easier. The best the competition can do is 10 or fewer function keys.

The Keyboard Advantage.

Our standard touch-typing layout makes word processing as easy as sitting at a typewriter. The separate numeric and cursor control keypads let you isolate information and enter numbers for spreadsheets more quickly. And with our isolated edit/delete keys, you'll never have to worry about accidentally erasing valuable data.

The Monitor Advantage.

Our monitor gives you 40-50% better resolution than the leading personal computers. Which means you get clearer displays that are easy on the eyes. And some of the sharpest graphics possible today.

The Software Advantage.

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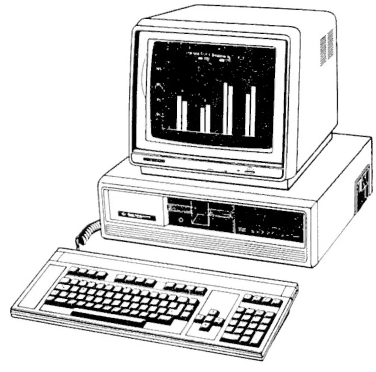
No one wants to buy a personal computer that's already on the road to obsolescence. That's why we're developing exciting new features that you can easily add to your TI Professional Computer—like speech recognition. Imagine being able to say, "Spreadsheet, please" and having it appear instantly on your monitor. This and more will be available this fall.



TEXAS INSTRUMENTS

418 St. Kilda Road, Melbourne 3004
Telephone: (03) 267 4677

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